PARSONS

PLUMESTOP PHASE 1 PILOT STUDY AT OLD OUTFALL 002

CHEMOURS FAYETTEVILLE WORKS
RCRA PERMIT NO. NCD047368642-R2-M3

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September 30, 2019

Chemours PN 504552
Parsons PN 449338

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ACRONYMS

Acronym	Definition / Description
Chemours	Chemours Company FC, LLC
bgs	Below ground surface
CO	Consent Order
HFPO-DA	Hexafluoropropylene oxide dimer acid (aka GenX)
IP	Injection Point
µg/L	Micrograms per liter
µm	Micrometers
NCDEQ	North Carolina Department of Environmental Quality
PFAS	Per - and polyfluoroalkyl substances
PFMOAA	Perfluoro-2-methoxyacetic acid
ROI	Radius of influence
Site	Fayetteville Works Facility
VOCs	Volatile organic compounds

1.0 INTRODUCTION

On February 25, 2019, The Chemours Company FC, LLC (Chemours) entered into a Consent Order (CO) with the State of North Carolina and Cape Fear River Watch to address perfluoroalkyl and polyfluoroalkyl substances (PFAS) at the Fayetteville Works site.

As required by paragraph 12.e of the CO, Chemours has completed a 3-month long pilot study to determine the efficacy of using PlumeStop by Regenesis Bioremediation Products (Regenesis) to sequester PFAS in the ground before it enters the Old Outfall 002 Channel. In addition, to the field pilot study, bench scale testing was also completed by Regenesis. This report presents the results of these studies. This pilot study was conducted in accordance with the procedures described in the May 20, 2019 Old Outfall 002 Remedial Options Plan prepared by Parsons.

1.1 Site Description and Background

The Site is a 2,777-acre manufacturing facility located near Fayetteville, NC in Bladen County (Figure 1). Since 1996, several stages of environmental investigations have been conducted at the site under North Carolina Department of Environmental Quality (NCDEQ) oversight.

Studies conducted at the Site indicate that groundwater containing PFAS constituents from historic PFAS deposition is discharging to a channel on the property referred to as the Old Outfall 002 (Figure 2). The channel historically was utilized to discharge process wastewater but was abandoned by the prior site owner when the current Outfall 002 was constructed in 2012. There is currently no active process wastewater discharge from the Site into this former outfall. Water in this channel ultimately discharges to the Cape Fear River.

1.2 Technology Description

As an alternative remediation method required by CO paragraph 12.e, Chemours is evaluating the use of Regenesis PlumeStop Liquid Activated Carbon™ (PlumeStop) to reduce PFAS flowing out Old Outfall 002. PlumeStop is an innovative groundwater remediation technology designed to sequester groundwater contaminants via sorption. It is composed of very fine particles (1 to 2 micrometers [µm]) of activated carbon suspended in water. The material is held in suspension using proprietary organic polymers that allow easy injection and dispersion into the subsurface. As the polymer breaks down, the carbon coats the solid material in the aquifer matrix creating a passive, subsurface carbon adsorption filter. PlumeStop has been successfully applied to remediate other contaminants including larger PFAS molecules; the testing described in this report was intended to determine its effectiveness in treating HFPO-DA and PFMOAA.

Chemours initiated a combination of laboratory (bench scale) and pilot scale studies to assess the efficacy of PlumeStop at the site. A phased approach is being used to facilitate data collection and minimize assumptions. In Phase 1, bench scale testing was conducted alongside a pilot-scale permeable reactive wall installed in the Perched Zone beneath the Site. This report describes the methods used in these studies and summarizes the findings.

2.0 TREATABILITY TESTING METHODS

As previously mentioned, Chemours initiated a combination of laboratory (bench scale) and pilot scale studies to assess the efficacy of PlumeStop at the site. Bench scale testing was conducted alongside a pilot-scale wall installed in the Perched Zone beneath the Site.

2.1 Bench Scale Treatability Testing

The purpose of the bench scale testing was to determine if the site-specific PFAS constituents would effectively bind to PlumeStop and that competitive sorption from the site matrix would not reduce the effectiveness of the PlumeStop. The effectiveness of PlumeStop was measured using the indicator constituents hexafluoropropylene oxide dimer acid (HFPO-DA) and perfluoro-2-methoxyacetic acid (PFMOAA) as directed by the CO. Additional PFAS compounds were also monitored in this study.

In order to evaluate the effectiveness, a batch study was conducted using the bulk aquifer components (soil and groundwater) to determine the dose-response of PlumeStop for the target compounds as well as other non-target species within the aquifer matrix. Six loadings of PlumeStop were used in the bench test, ranging from approximately 1,000 mg/L to 25,000 mg/L. Three of the six treated samples were prepared in duplicate for reproducibility verification. In addition to the PlumeStop treated samples, two control samples and one method control blank were also analyzed. The control samples contained site soil and groundwater with no added PlumeStop. The method control blank consisted of deionized water and was analyte-free. They were carried through the entire process and meant to trace any artificial sources of contamination from the procedures.

Aquifer media (soil and groundwater) were collected in April and May 2019 and shipped to Regenesis for bench scale testing. All samples were prepared in 4-liter high density polyethylene bottles for the sorption batch study. Each bottle contained 4,000 milliliters of contaminated groundwater from the site in addition to 0.4 kilograms of site soil. The designated amount of PlumeStop for each treatment level was then added to the reaction vessel, (or de-ionized water for the controls). In addition, a settling agent was added to all samples to destabilize the PlumeStop which allowed for water free of PlumeStop to be sampled and sent for analysis. This settling reagent is a mix of salts formulated and tested to decrease the time needed for PlumeStop to destabilize and settle out of the aqueous phase. Without this procedure, PlumeStop would remain suspended in solution during the sampling event, and any PFAS compounds adsorbed on the PlumeStop would be chemically extracted from the PlumeStop during the analytical sample preparation, leading to biased high results. The reaction vessels were sealed, the contents manually mixed, and the samples stored at room temperature for seven days, which provided enough time for the contaminants to adsorb and the PlumeStop to settle. At this time, PlumeStop-free groundwater samples were removed from the reaction vessels, and the samples were then shipped to a commercial laboratory for PFAS and volatile organic compound (VOC) analyses.

2.2 Phase 1 Pilot Scale Treatability Testing

The Phase 1 pilot test is located near the polyvinyl fluoride resin manufacturing unit in the southern portion of the Fayetteville Works manufacturing site. Situated near the upper reaches of the Old Outfall 002 Channel, the area itself is relatively flat and is

adjacent to a moderately steep ravine to the west-southwest (the Old Outfall Channel). The Phase I pilot test was conducted to assess PlumeStop treatment near the southwestern extent of the perched zone, which is a relatively thin saturated, sandy zone atop a clay unit starting at approximately 16 to 22 feet below ground surface (bgs). The saturated thickness of the perched zone varies from approximately 5 to 9 feet, in the pilot test area. The area previously contained a stand of coniferous trees, which were cleared prior to initiation of the pilot study.

A proposed location for the Phase 1 test was determined based on assumed groundwater flow and the location of the old outfall 002 channel. Prior to mobilization of the injection crew, Parsons completed a hydrogeologic assessment in this area to locate the perched zone. In April 2019 as part of this assessment, Parsons installed two soil borings (to map out the location of the perched zone clay), six monitoring wells, and four piezometers (Figure 3). A round of groundwater samples was collected from the six monitoring wells to assess baseline conditions prior to carbon injection. Boring and well construction logs are provided in Appendix A.

Based on groundwater elevations collected by Parsons, Regenesis constructed a groundwater flow map showing the general groundwater flow direction to be rotated approximately 45 degrees from the longest side of the proposed barrier. Following this and taking into consideration the fixed locations of the performance monitoring wells, REGENESIS established an injection pattern as shown in Figure 4. Injection points (IPs) were placed in three rows, with Rows 1 and 2 numbered 1-32 and in the upgradient portion of the barrier and Row 3 numbered 33-48 and located in the downgradient side of the barrier.

Prior to and during the pilot-scale PlumeStop barrier application, a design verification test was conducted to refine the Perched Zone treatment design. A total of 11 soil borings, five pre-application and six post-application cores were collected throughout the study. Soil borings were retrieved in 5-foot sections using a 2.25-inch dual-tube sampler and ranged in total collection depths of 20 to 23 feet below ground surface. Cores were logged in detail from eight feet below ground surface to the end of the boring. Special emphasis was placed on measuring the vertical saturated thickness and observing the perched zone sand/cay contact across the length of the barrier, which established the target vertical treatment positionally in the barrier. Soil grain size, which was used to predict hydraulic conductivity and potential radius of influence (ROI) of the treatment, was observed through soil settling analysis, whereby soil samples collected in 1-foot increments were placed in glass vials with water, mixed, and allowed to settle by particle size into distinct layers.

2.3 Phase 1 Pilot Scale Groundwater Monitoring

Baseline groundwater samples were collected on May 2nd and 3rd, 2019 prior to injection of the PlumeStop compound. Injection of the phase 1 pilot barrier was completed in May 2019. Following the injections, monthly groundwater samples were collected from perched zone wells MW-31 through MW-36 for three months to monitor the performance of the barrier. Post-injection groundwater samples were collected from these six wells on June 18-19, July 17-18, and August 9-12, 2019. The samples were submitted for laboratory analysis of VOCs (Method 8260B), total hardness (Method 2340 C-1997), PFAS compounds (Method 537 Modified), and Table 3+ (Chemours SOP). Post-injection groundwater samples collected from wells MW-35 and MW-36 contained unsettled PlumeStop reagent even after properly purging the wells using low flow

techniques. Due to the presence of PlumeStop in these samples, the June and July samples from wells MW-35 and MW-36 were shipped to Regenesis for centrifuging to remove the PlumeStop material and then shipped to the laboratory for analysis. The presence of PlumeStop in the groundwater sample when it is analyzed can result in higher groundwater results that are not typical of in-situ conditions. The August sample contained less PlumeStop and due to time constraints, these samples were shipped directly to the laboratory for analysis. The July sample from MW-36 was not analyzed for VOCs due to insufficient volume remaining following this procedure.

3.0 TREATABILITY TESTING RESULTS

3.1 Bench Scale Results

This section briefly describes the results of the bench scale testing. A detailed report prepared by Regenesis and is included in Appendix B.

This treatability study examined the ability of various PlumeStop doses (1,000 mg/L to 25,000 mg/L) to remove HFPO-DA, PFMOAA, and other PFAS compounds from the perched groundwater zone at the subject site via adsorption to colloidal activated carbon particles. The key findings from the proof of concept test are as follows:

- PlumeStop successfully removed HFPO-DA from the groundwater and reduced its concentration to below reporting limits with a dose of only 5,000 mg/L.
- The range of PlumeStop doses tested removed between 93.5% and 99.6% of the total PFAS, indicating that a PlumeStop treatment can significantly remove these compounds from the groundwater matrix, thereby reducing the contaminant flux through the site.
- 24 of the 26 PFAS species were removed to non-detect concentrations.
- As much as 95% of PFMOAA was removed from the groundwater in this study.
- Successive treatments by two 10,000 mg/L doses of PlumeStop yielded better results than a single 20,000 mg/L treatment, suggesting that observed field results may be better than the results observed in this study, assuming similar contaminant concentrations.
- The lowest PlumeStop dose tested removed over 90% of the total PFAS compounds, this result suggests an expected design advantage of improved treatment longevity when PlumeStop is used in a barrier formation.

These results confirm the ability of PlumeStop to adsorb the contaminants and demonstrate that no significant interfering species that limits the performance of PlumeStop is present in the soil and groundwater matrix. Therefore, PlumeStop is capable of quickly removing multiple contaminants from the aqueous phase at the site. This information, in combination with other site-specific parameters, can be used to estimate the performance of PlumeStop in various potential treatment areas of the site. Actual field dosing would be developed for each scenario in combination with estimates of the contaminant concentration, flux, and treatment goals.

3.2 Pilot Scale Injection Results

This section briefly describes the results of the injections and the design verification testing. A detailed summary of the injections and testing was prepared by Regenesis and is included in Appendix C. Based on the design verification testing the lithology of the perched zone in this area is predominantly sand and silty sand with varying degrees of fines. Two fine-grained (silt/clay) layers were noted in all soil borings. A thin fine-grained layer, two to eight inches thick was observed approximately between 11 and 13 ft bgs. The aquiclude of the perched aquifer was determined to begin at between 16 and 21 ft bgs, increasing in depth from the SSE to NNW. Water was detected beginning at 11 to 12 ft bgs and extended into the confining layer. The saturated thickness in the western portion of the barrier was greater than what was expected based on the review of available data including previous boring logs. The increase in the total vertical

treatment increased the treatment volume injected by approximately 20 percent from the original design calculations.

Prior to injections, three temporary piezometers (PZs 1-3) were installed and used as an ROI indicator and to improve the spatial sampling resolution of water level measurements. To observe the effect on water levels in nearby wells, injections began with a single-point injection test at IP-1. During the test, wells were observed for changes in depth to water and arrival of the PlumeStop reagent. Additionally, pressures and flowrates were varied to identify any lithological limitations of injections. During the application, soil borings were advanced and soil color observed for the vertical distribution of the PlumeStop reagent.

A total of 48 discrete locations were utilized to deliver the remedial solution of PlumeStop to the subsurface of the treatment area. Using direct-push technology (DPT), PlumeStop was injected through 2.25-inch tooling. Injection points were placed in a staggered grid-like pattern of three rows with an average spacing of five feet between points and rows. Treatment depths and intervals varied based on the saturated thickness of the perched aquifer. For all locations, the bottom of the treatment zone was located at the interface of the perched-water table and the underlying aquiclude. As such, bottom treatment depths increased from 17 to 22 ft bgs along the barrier from the SSE to the NNW while the treatment interval increased from six to nine feet.

Three injection techniques were tested:

1. Initial injections were completed following a bottom-up approach using 3-foot retractable screens to deliver the PlumeStop reagent to the subsurface in discrete intervals of 1-3 feet.

2. Pressure-activated probes which discharge fluid in a narrow band from four injection ports. These probes were utilized in 6-inch intervals following bottom-up and top-down approaches.

3. Lastly, 3-foot retractable screens were attempted in small, 1-foot intervals following top-down and bottom-up approaches.

Based on visual inspection of PlumeStop distribution in the post-application cores, 3-foot screens following a bottom-up approach of 3-foot intervals was determined to be the best delivery method.

To test injection limitations, flowrates were varied from 0.50 to 10.05 gallons per minute (gpm) for an overall median flowrate of 4.31 gpm. Based on the lithology and injection tooling diameter, flowrates appeared to be limited to a maximum of 5.50 gpm, whereby higher rates resulted in surfacing from around the active boring. Surfacing was otherwise uncommon and successfully prevented or mitigated by decreasing flowrates to 4.0 gpm or lower; lower rates were required as the application neared completion.

To assess distribution during injection, PlumeStop concentrations were measured in the three permanent monitoring wells and three piezometers. Concentrations ranged from approximately 3,000 milligrams per liter at PZ-1 to approximately 30,000 milligrams per liter at MW-36. Additionally, PlumeStop staining of soils was noted in all soil cores

collected during injection. These results indicate good distribution of PlumeStop throughout the entire treatment zone.

The in-situ application of PlumeStop at a total of 48 locations created a barrier 70 feet in length. A total of 22,000 lbs of PlumeStop was injected via direct-push technology for a total application volume of 12,218 gallons.

3.3 Groundwater Monitoring Results

The pre- and post-injection monitoring results are summarized on Table 1. Laboratory reports are included in Appendix D and groundwater sampling logs are in Appendix E. There were no significant detections of VOCs in any of the monitoring wells. Concentrations of most constituents in upgradient wells MW-31, MW-32, and MW-33 showed no significant changes in concentrations over the test period. PFAS concentrations generally showed significant decreases in samples from downgradient wells MW-34, MW-35 and MW-36. At well MW-34, sample analysis showed HFPO-DA decreased from 4.9 micrograms per liter (µg/L) prior to the injection to 0.036 µg/L three months later (99.3% reduction). Similar reductions were observed at wells MW-35 and MW-36 (99.4% and 99.3%, respectively).

At well MW-34, PFMOAA decreased from 111 J µg/L prior to injection to 26 µg/L within three months (76.6% reduction). Lower reductions of PFMOAA were observed at wells MW-35 and MW-36. The concentration at well MW-35 decreased from 80 µg/L to 26 µg/L in July (67.5% reduction); while the concentration at well MW-36 decreased from 98 J µg/L to 26 µg/L (73.5% reduction). The concentrations of PFMOAA at these wells appeared to rebound somewhat in August 2019; however, it is suspected that the higher concentration may be the result of the change in sample preparation described in Section 2.3 and that the result is not indicative of in-situ groundwater conditions.

Total PFAS concentrations at MW-34 decreased from 159 µg/L prior to injection to 28.5 µg/L in August (82% decrease). Wells MW-35 and MW-36 showed reductions of 76% and 82% based on the July sample results. Similar to PFMOAA, total PFAS concentrations rebounded somewhat in August.

4.0 CONCLUSIONS

Colloidal activated carbon was demonstrated to effectively reduce target PFAS compound (i.e., HFPO DA and PMFMOAA) concentrations in the perched zone aquifer at Old Outfall 002. Both the bench and pilot treatability studies support the *in-situ* application of the reagent as an economically and technologically feasible option for addressing PFAS impacts in the subsurface at the site, which would mitigate PFAS loading to surface water and reduce the migration of contaminants in groundwater. Significant mass reduction can be achieved for the target compound HFPO-DA (i.e., >99% in both the bench and pilot studies), and the bench-scale treatability study indicates the potential to achieve up to 95% reduction of PFMOAA. Furthermore, significant mass reductions of both target and non-target PFAS compounds in the bulk matrix were achieved in the bench-scale and pilot studies. In the case of the treatability study, >99% mass removal was realized, and 24 of the 26 PFAS species were removed to non-detect concentrations.

The pilot scale injection of PlumeStop demonstrated that the design volumes can be delivered to the subsurface without difficulty while maintaining relatively low injection pressures and adequate delivery rates (up to 5 gallons per minute per point) as desired. Based on the observations of the soil cores and the measured PlumeStop concentrations in groundwater from the monitoring points during injection, distribution throughout the entire treatment volume was confirmed.

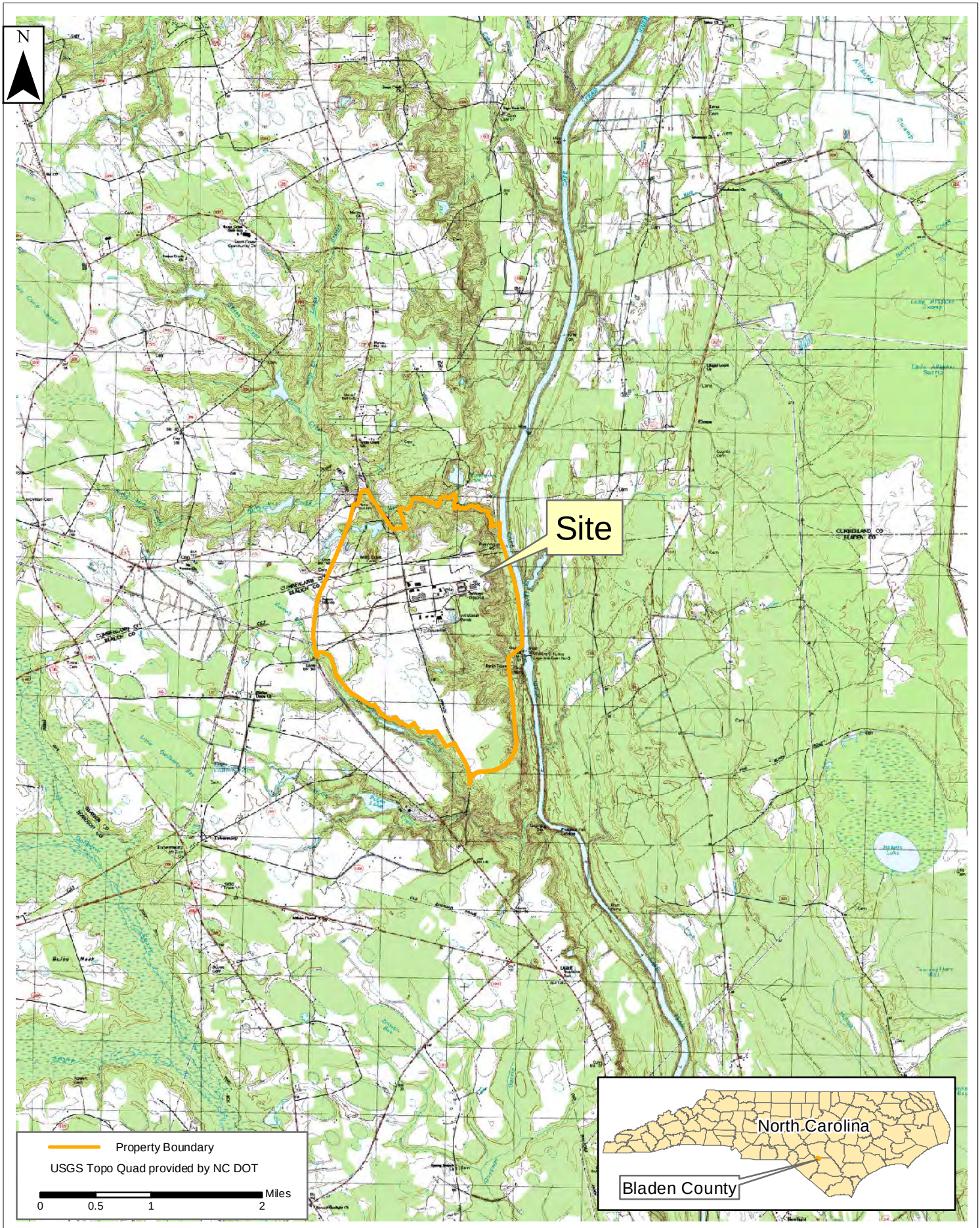
The field results from post-treatment pilot study samples resulted in HFPO-DA reductions greater than 99% and PFMOAA being reduced by approximately 40 to 77%, relative to baseline concentrations in the 3 performance monitoring wells. The results indicate that by adjusting the design, PlumeStop is capable of removing PFMOAA to lower levels. The difference in the percent reductions in part is attributable to HFPO-DA being more hydrophobic than PFMOAA. Additionally, the pilot study dosing was based on representative concentrations of the major PFAS and HFPO-DA constituents upgradient or in the vicinity of the perched-zone treatment area prior to the availability of baseline sampling results in the target treatment zone. In some cases, these concentrations varied significantly from the assumed designed concentrations.

Design simulations to establish a proper carbon loading for the pilot study used a <5 ug/L PFMOAA loading for the pilot design based on existing analytical data. When the field data became available, higher concentrations were detected in the pilot study area key performance monitoring wells MW-34, MW-35, and MW-36. The samples taken on May 2, 2019, a week before the injection, showed detections of PFMOAA between 80 and 110 ug/L, which is greater than an order of magnitude than the assumed design concentration. The selected design concentration for the other key constituent, HFPO Dimer Acid, was 5.2 ug/L, which was appropriately representative of the 4.5 ug/L average from the May 2, 2019 baseline samples collected from the three performance wells. Therefore, a revised design would have been utilized had the actual site concentrations of PFMOAA been known, and it would be anticipated that higher percent removals of PFMOAA would have been observed.

The results of the bench scale study and the pilot study indicate that PlumeStop can significantly reduce the concentrations of HFPO-DA, PFMOAA, as well as many other PFAS compounds at the subject site. Over time, these reductions can translate to a reduction in the contaminant mass flux moving across the site. The purpose of the pilot

and bench scale studies was to determine if PlumeStop is a viable remedial technology at the Site and to gather data required to design a full-scale system if implemented. A full-scale system would be designed for a specific lifespan (e.g., 5 years, 10 years, etc.) and to sustain the removal, additional treatments may be required at regular intervals. The system would be monitored, and injections continued until the effects of source control efforts eliminated the need for further injections. The results of these studies provide guidance for the expected performance and can allow for future design adjustments to be made, including the colloidal activated carbon dose, barrier orientation, and barrier length in order to optimize the approach and success of the treatment.

FIGURES



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Site Location Map
PlumeStop Phase 1 Pilot Study at Old Outfall 002
Chemours Fayetteville Works
Fayetteville, North Carolina

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C. Oneal	1/29/2018	450768
Revision: 1	Figure Number: 1	
Name: Fay_Fig_1_Site_Loc		

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N

Chemours
Monomers
IXM Area

Chemours
PPA Area

Kuraray America
Leased Areas

Kuraray America
Leased Areas

Cape Fear River

Wastewater
Treatment
Plant

Former DuPont PMDF
Production Area

DuPont
Leased Area

Old Outfall 002 Channel

Drainage Network
Former DuPont PMDF Production Area
Chemours Monomers IXM Area
Chemours PPA Area
DuPont Leased Area
Kuraray America Leased Areas
Wastewater Treatment Plant
Plant Border

0 0.125 0.25 0.5 Miles

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Site Layout Map
PlumeStop Phase 1 Pilot Study at Old Outfall 002
Fayetteville Works Facility
Fayetteville, North Carolina

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C. Oneal	5/20/2019	449338.01050
Revision: 1	Figure Number: 2	
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Performance Verification Testing Monitoring Wells and Piezometers
PlumeStop Phase 1 Pilot Study at Old Outfall 002
Fayetteville Works Facility
Fayetteville, North Carolina

Drawn: C. Oneal	Date: 5/15/2019	File Project Number: 449338.01050
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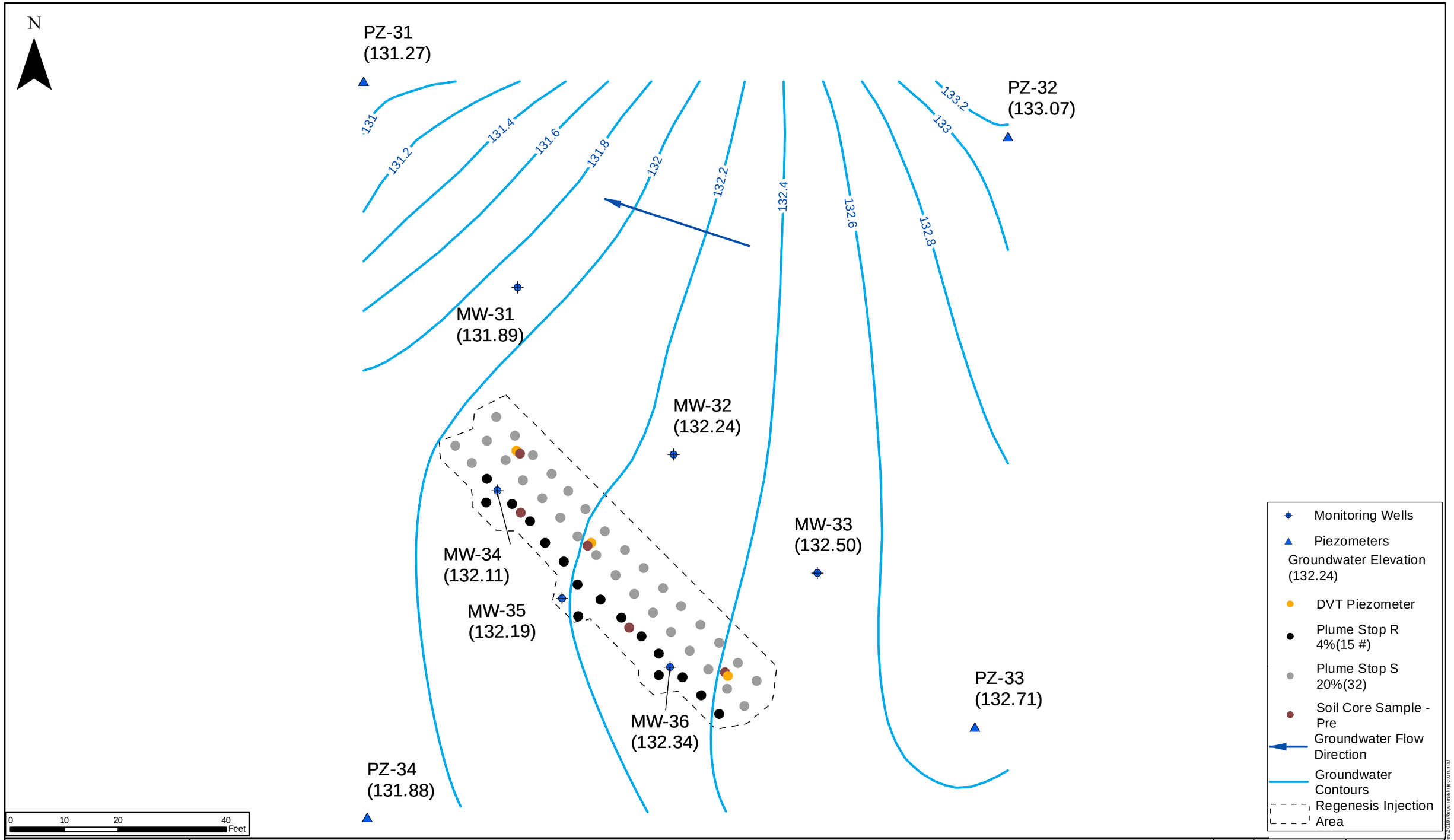

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Potentiometric Surface and Injection Points
PlumeStop Phase 1 Pilot Study at Old Outfall 002
Fayetteville Works Facility
Fayetteville, North Carolina

Drawn: C. Oneal	Date: 8/30/2019	File Project Number: 449338.01027
Revision: 1	Figure Number: 4	
Name: RegenesisInjection		

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TABLE

Table 1
Groundwater Sampling Results
PlumeStop Phase 1 Pilot Study at Old Outfall 002
Chemours Fayetteville Works
Fayetteville, North Carolina

Location ID		MW-31				MW-32				MW-33					
Date Sampled		05/03/2019	06/18/2019	07/18/2019	08/12/2019	05/03/2019	06/18/2019	07/18/2019	08/09/2019	05/02/2019	06/18/2019	06/18/2019	07/18/2019	07/18/2019	08/12/2019
Sample Purpose		FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	DUP	FS	DUP	FS
Parameter Name	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds (VOCs)															
1,1,1,2-Tetrachloroethane	UG/L	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
1,1,1-Trichloroethane	UG/L	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
1,1,2,2-Tetrachloroethane	UG/L	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
1,1,2-Trichloroethane	UG/L	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27
1,1-Dichloroethane	UG/L	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22
1,1-Dichloroethene	UG/L	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23
1,2,3-Trichloropropane	UG/L	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33
1,2-Dibromo-3-Chloropropane	UG/L	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47
1,2-Dibromoethane (EDB)	UG/L	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
1,2-Dichloroethane	UG/L	**0.18 J**	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
1,2-Dichloropropane	UG/L	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18
1,3-Dichlorobenzene	UG/L	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13
2-Hexanone	UG/L	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
Acetone	UG/L	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	**26 B**	**5.1 B**	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
Acetonitrile	UG/L	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6
Acrolein	UG/L	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8
Acrylonitrile	UG/L	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4
Allyl Chloride	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Benzene	UG/L	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Bromodichloromethane	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Bromoform	UG/L	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46
Carbon Disulfide	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**0.40 B**	<0.17	<0.17	<0.17	<0.17	<0.17
Carbon Tetrachloride	UG/L	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
Chlorobenzene	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Chlorodibromomethane	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Chloroform	UG/L	**1.6 B**	**2**	**1.6**	**1.9**	**0.19 B**	**0.36 J**	**0.24 J**	<0.16	**1.7 B**	**1.3**	**1.3**	**1.2**	**1.2**	**1.4**
Chloroprene	UG/L	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21
cis-1,3-Dichloropropene	UG/L	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Dichlorodifluoromethane	UG/L	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31
Ethyl Chloride	UG/L	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41
Ethyl Methacrylate	UG/L	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86
Ethylbenzene	UG/L	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Iodomethane	UG/L	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23
Isobutyl Alcohol	UG/L	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37
Meta- And Para-Xylene	UG/L	<0.15	<0.15	<0.15	**0.33 B**	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	**0.31 B**
Methacrylonitrile	UG/L	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
Methyl Bromide	UG/L	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21

Table 1
Groundwater Sampling Results
PlumeStop Phase 1 Pilot Study at Old Outfall 002
Chemours Fayetteville Works
Fayetteville, North Carolina

Location ID		MW-31				MW-32				MW-33					
Date Sampled		05/03/2019	06/18/2019	07/18/2019	08/12/2019	05/03/2019	06/18/2019	07/18/2019	08/09/2019	05/02/2019	06/18/2019	06/18/2019	07/18/2019	07/18/2019	08/12/2019
Sample Purpose		FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	DUP	FS	DUP	FS
Parameter Name	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Methyl Chloride	UG/L	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Methyl Ethyl Ketone	UG/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl Isobutyl Ketone	UG/L	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98
Methyl Methacrylate	UG/L	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1
Methylene Bromide	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17
Methylene Chloride	UG/L	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94
Ortho-Xylene	UG/L	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
Propionitrile	UG/L	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7
Styrene	UG/L	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36
Tetrachloroethene	UG/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Toluene	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	**0.27 B**	<0.17
trans-1,2-Dichloroethene	UG/L	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15
trans-1,3-Dichloropropene	UG/L	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19
trans-1,4-Dichlorobutene-2	UG/L	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80
Trichloroethene	UG/L	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Trichlorofluoromethane	UG/L	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29
Vinyl Acetate	UG/L	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94
Vinyl Chloride	UG/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Xylenes	UG/L	<0.19	<0.19	<0.19	**0.33 B**	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	**0.31 B**
1,4-Dioxane	UG/L	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19
Miscellaneous															
Calcium	MG/L	**3.8**	**4.3**	**5**	**4.9**	**6**	**7.3**	**7.7**	**7.8**	**3.9**	**4.4**	**4.4**	**5.1 J**	**5**	**4.5**
Calcium	MG/L	**3.5**	**4.2**	**4.9**	**4.9**	**5.7**	**7**	**7.2**	**6.8**	**3.6**	**4.4**	**4.4**	**5**	**5**	**4.7**
Carbon	MG/L	**1.4**	**1.6**	**1.5**	**1.8**	**1.6**	**1.8**	**2.8**	**2**	**1.3**	**1.6**	**1.7**	**1.5**	**1.5**	**1.9**
Dissolved Organic Carbon	UG/L	**1500**	**1800**	**2200 B**	**2500**	**2000**	**1900**	**3800**	**1900**	**1200 B**	**1600**	**1700**	**2400 B**	**1700 B**	**2600**
Total Hardness As CaCO3	MG/L	**13**	**32**	**18**	**22**	**21**	**25**	**34**	**88 J**	**11**	**15**	**17**	**14**	**15**	**15**
PFAS (537 Method)															
Perfluorobutane Sulfonic Acid	UG/L	<0.002	**0.0022**	**0.0029**	**0.003**	**0.0023**	**0.0023**	**0.0028**	**0.0029**	<0.0020	**0.0022**	**0.0022**	**0.0032**	**0.0031**	**0.0037**
Perfluorobutanoic Acid	UG/L	**0.039**	**0.028**	**0.029**	**0.03**	**0.041**	**0.029**	**0.028**	**0.023**	**0.037**	**0.024**	**0.023**	**0.023**	**0.024**	**0.022**
Perfluorodecanoic Acid	UG/L	**0.0031**	**0.0023**	**0.0023**	**0.0026**	**0.003**	**0.002**	**0.0024**	**0.0024**	**0.0032**	**0.0023**	**0.0023**	**0.003**	**0.0032**	**0.0023**
Perfluorododecanoic Acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoroheptanoic Acid	UG/L	**0.013**	**0.0093**	**0.012**	**0.012**	**0.012**	**0.01**	**0.011**	**0.012**	**0.011**	**0.009**	**0.0085**	**0.011**	**0.011**	**0.013**
Perfluorohexane Sulfonic Acid	UG/L	**0.003**	**0.0032**	**0.0044**	**0.0046**	**0.0035**	**0.0036**	**0.0043**	**0.0047**	**0.003**	**0.0032**	**0.0032**	**0.0048**	**0.0048**	**0.0061**
Perfluorohexanoic Acid	UG/L	**0.0088**	**0.0076**	**0.012**	**0.013**	**0.012**	**0.01**	**0.013**	**0.016**	**0.0078**	**0.0091**	**0.0084**	**0.013**	**0.013**	**0.017**
Perfluorononanoic Acid	UG/L	**0.0045**	**0.003**	**0.0032**	**0.0034**	**0.0046**	**0.0028**	**0.0028**	**0.0028**	**0.0061**	**0.003**	**0.0029**	**0.0032**	**0.0032**	**0.0028**
Perfluoropentanoic Acid	UG/L	**0.052**	**0.046**	**0.047**	**0.048**	**0.051**	**0.042**	**0.04**	**0.038**	**0.045**	**0.033**	**0.033**	**0.033**	**0.034**	**0.035**
Perfluoroundecanoic Acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
PFOA	UG/L	**0.016**	**0.0098**	**0.012**	**0.011**	**0.013**	**0.011**	**0.012**	**0.02**	**0.015**	**0.011**	**0.011**	**0.012**	**0.013**	**0.011**

Table 1
Groundwater Sampling Results
PlumeStop Phase 1 Pilot Study at Old Outfall 002
Chemours Fayetteville Works
Fayetteville, North Carolina

Location ID		MW-31				MW-32				MW-33					
Date Sampled		05/03/2019	06/18/2019	07/18/2019	08/12/2019	05/03/2019	06/18/2019	07/18/2019	08/09/2019	05/02/2019	06/18/2019	06/18/2019	07/18/2019	07/18/2019	08/12/2019
Sample Purpose		FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	DUP	FS	DUP	FS
Parameter Name	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
PFOS	UG/L	**0.011**	**0.0089**	**0.0092**	**0.01**	**0.011**	**0.0083**	**0.011**	**0.012**	**0.03**	**0.009**	**0.0089**	**0.012**	**0.011**	**0.013**
HFPO-Dimer Acid	UG/L	**4.7**	**2.3**	**2**	**1.8**	**2.7**	**1.8**	**1.7 J**	**1.1**	**2.5**	**1.3**	**1.2**	**0.95 J**	**1.3 J**	**0.79**
Perfluorodecane Sulfonic Acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorotetradecanoic Acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorotridecanoic Acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
10:2 Fluorotelomer sulfonate	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
perfluorodecanesulfonate (8:2 FTS)	UG/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
perfluorohexanesulfonate (4:2 FTS)	UG/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
6:2 Fluorotelomer sulfonate	UG/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
ADONA	UG/L	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021
F-53B Major	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
F-53B Minor	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
N-methyl perfluorooctane sulfonamidoacetic acid	UG/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
N-ethyl perfluorooctane sulfonamidoacetic acid	UG/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
NaDONA	UG/L	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021
Perfluorododecane sulfonic acid (PFDoS)	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoroheptane sulfonic acid (PFHpS)	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorohexadecanoic acid (PFHxDA)	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorononanesulfonic acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorooctadecanoic acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorooctane Sulfonamide	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoropentane sulfonic acid (PFPeS)	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
PFAS (Table 3+)															
octanesulfonamide	UG/L	<0.037 UJ	<0.037 UJ	<0.037	<0.037	<0.037 UJ	<0.037 UJ	<0.037	<0.037	<0.037 UJ	<0.037 UJ	<0.075 UJ	<0.037	<0.037	<0.037
octanesulfonamido)-ethanol	UG/L	<0.060	<0.060 UJ	<0.060	<0.060	<0.060	<0.060 UJ	<0.060	<0.060	<0.060	<0.060 UJ	<0.12 UJ	<0.060	<0.060	<0.060
octanesulfonamido)-ethanol	UG/L	<0.11	<0.11 UJ	<0.11	<0.11	<0.11	<0.11 UJ	<0.11	<0.11	<0.11	<0.11 UJ	<0.22 UJ	<0.11	<0.11	<0.11
Byproduct 4	UG/L	**0.45**	**0.32 J**	**0.37**	**0.46**	**0.59**	**0.44 J**	**0.38**	**0.36**	**0.25**	**0.27 J**	<0.32 UJ	**0.16**	**0.2**	**0.26**
Byproduct 5	UG/L	**0.87**	**0.62 J**	**0.72**	**0.96**	**1.5 J**	**1.2 J**	**1.2**	**1.2 J**	**0.47 J**	**0.67 J**	**0.75 J**	**0.81**	**0.77**	**0.96**
Byproduct 6	UG/L	<0.015	<0.015 UJ	<0.015	<0.015	**0.018**	**0.017 J**	<0.015	<0.015	<0.015	<0.015 UJ	<0.031 UJ	<0.015	<0.015	<0.015
EVE Acid	UG/L	<0.024	<0.024 UJ	<0.024	<0.024	**0.028**	**0.025 J**	<0.024	<0.024	<0.024	<0.024 UJ	<0.049 UJ	<0.024	<0.024	<0.024

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PlumeStop Phase 1 Pilot Study at Old Outfall 002
Chemours Fayetteville Works
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Location ID		MW-31				MW-32				MW-33					
Date Sampled		05/03/2019	06/18/2019	07/18/2019	08/12/2019	05/03/2019	06/18/2019	07/18/2019	08/09/2019	05/02/2019	06/18/2019	06/18/2019	07/18/2019	07/18/2019	08/12/2019
Sample Purpose		FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	DUP	FS	DUP	FS
Parameter Name	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Hydro-EVE Acid	UG/L	**0.08**	**0.064 J**	**0.062**	**0.059**	**0.08**	**0.081 J**	**0.066**	**0.049**	**0.047**	**0.044 J**	<0.056 UJ	**0.037**	**0.041**	**0.041**
N-methyl perfluoro-1-octanesulfonamide	UG/L	<0.035	<0.035 UJ	<0.035	<0.035	<0.035 UJ	<0.035 UJ	<0.035	<0.035	<0.035 UJ	<0.035 UJ	<0.069 UJ	<0.035	<0.035	<0.035
NVHOS	UG/L	**0.71**	**0.76 J**	**0.77**	**0.82**	**1.6**	**1.6 J**	**1.3**	**0.9**	**0.57**	**0.88 J**	**0.86 J**	**0.71**	**0.67**	**0.85**
PEPA	UG/L	**2.6**	**1.8 J**	**1.1**	**0.91**	**1.7**	**0.99 J**	**0.66**	**0.45**	**2.1**	**0.84 J**	**0.85 J**	**0.55**	**0.57**	**0.34**
PES	UG/L	<0.046	<0.046 UJ	<0.046	<0.046	<0.046	<0.046 UJ	<0.046	<0.046	<0.046	<0.046 UJ	<0.092 UJ	<0.046	<0.046	<0.046
PFECA B	UG/L	<0.060	<0.060 UJ	<0.060	<0.060	<0.060	<0.060 UJ	<0.060	<0.060	<0.060	<0.060 UJ	<0.12 UJ	<0.060	<0.060	<0.060
PFECA-G	UG/L	<0.041	<0.041 UJ	<0.041	<0.041	<0.041	<0.041 UJ	<0.041	<0.041	<0.041	<0.041 UJ	<0.082 UJ	<0.041	<0.041	<0.041
PFESA-BP1	UG/L	<0.027	**0.038 J**	**0.027**	<0.027	**0.091**	**0.084 J**	**0.077**	**0.053**	<0.027	**0.034 J**	<0.053 UJ	**0.033**	**0.03**	**0.052**
PFESA-BP2	UG/L	**0.78**	**0.50 J**	**0.45**	**0.51**	**0.91**	**0.51 J**	**0.44**	**0.38**	**0.45**	**0.31 J**	**0.28 J**	**0.34**	**0.33**	**0.35**
PFMOAA	UG/L	**56**	**70 J**	**62**	**69**	**121 J**	**146 J**	**105**	**79**	**40 J**	**75 J**	**65 J**	**54**	**50**	**63**
PFO2HxA	UG/L	**13**	**15 J**	**13**	**14**	**24 J**	**27 J**	**21**	**15**	**9.3**	**14 J**	**14 J**	**11**	**11**	**12**
PFO3OA	UG/L	**3.4**	**3.4 J**	**3.4**	**3.7**	**6**	**6.7 J**	**5.2**	**3.8**	**2.1**	**3.3 J**	**3.4 J**	**2.8**	**2.6**	**3**
PFO4DA	UG/L	**1.1**	**0.88 J**	**0.84**	**0.93**	**1.5**	**1.5 J**	**1.2**	**0.93 J**	**0.71**	**0.75 J**	**0.84 J**	**0.68**	**0.66**	**0.73**
PFO5DA	UG/L	**0.62**	**0.40 J**	**0.3**	**0.28**	**0.43**	**0.33 J**	**0.27**	**0.23 J**	**0.57**	**0.20 J**	**0.22 J**	**0.2**	**0.21**	**0.16**
PMPA	UG/L	**5.7**	**4.3 J**	**2.4**	**2.4**	**3.9**	**2.4 J**	**1.4**	**1.7**	**4.5**	**2.0 J**	**1.6 J**	**1.2**	**1.1**	**1.2**
R-EVE	UG/L	**0.18**	**0.070 J**	**0.12**	**0.18**	**0.19**	**0.089 J**	<0.070	**0.084 J**	**0.1**	**0.070 J**	<0.14 UJ	**0.092**	**0.07**	**0.099**

Notes:

NS = Not Sampled

< = Not detected at the reported detection limit

J = Estimated Value

UJ = Not detected at the estimated detection limit

FS = Field Sample

DUP = Duplicate Sample

Table 1
Groundwater Sampling Results
PlumeStop Phase 1 Pilot Study at Old Outfall 002
Chemours Fayetteville Works
Fayetteville, North Carolina

Location ID		MW-34					MW-35				MW-36				
Date Sampled		05/02/2019	06/19/2019	07/18/2019	08/09/2019	08/09/2019	05/02/2019	06/18/2019	07/17/2019	08/09/2019	05/02/2019	05/02/2019	06/18/2019	07/17/2019	08/09/2019
Sample Purpose		FS	FS	FS	FS	DUP	FS	FS	FS	FS	FS	DUP	FS	FS	FS
Parameter Name	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Volatile Organic Compounds (VOCs)															
1,1,1,2-Tetrachloroethane	UG/L	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	NS	<0.21
1,1,1-Trichloroethane	UG/L	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	NS	<0.16
1,1,2,2-Tetrachloroethane	UG/L	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	NS	<0.21
1,1,2-Trichloroethane	UG/L	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	<0.27	NS	<0.27
1,1-Dichloroethane	UG/L	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	<0.22	NS	<0.22
1,1-Dichloroethene	UG/L	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	NS	<0.23
1,2,3-Trichloropropane	UG/L	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	<0.33	NS	<0.33
1,2-Dibromo-3-Chloropropane	UG/L	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	<0.47	NS	<0.47
1,2-Dibromoethane (EDB)	UG/L	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	NS	<0.18
1,2-Dichloroethane	UG/L	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	**0.15 J**	<0.13	NS	<0.13
1,2-Dichloropropane	UG/L	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	<0.18	NS	<0.18
1,3-Dichlorobenzene	UG/L	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	<0.13	NS	<0.13
2-Hexanone	UG/L	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	NS	<1.7
Acetone	UG/L	<1.9	**4.1 B**	**4.0 J**	<1.9	<1.9	<1.9	**18**	**5.1 J**	<1.9	<1.9	<1.9	**69**	NS	**11 B**
Acetonitrile	UG/L	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	<9.6	NS	<9.6
Acrolein	UG/L	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	<2.8	NS	<2.8
Acrylonitrile	UG/L	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	<1.4	NS	<1.4
Allyl Chloride	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	NS	<0.17
Benzene	UG/L	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	NS	<0.16
Bromodichloromethane	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	NS	<0.17
Bromoform	UG/L	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	<0.46	NS	<0.46
Carbon Disulfide	UG/L	**0.64 B**	<0.17	<0.17	<0.17	<0.17	**0.47 B**	<0.17	<0.17	<0.17	**0.38 B**	<0.17	<0.17	NS	<0.17
Carbon Tetrachloride	UG/L	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	NS	<0.19
Chlorobenzene	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	NS	<0.17
Chlorodibromomethane	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	NS	<0.17
Chloroform	UG/L	**1.0 B**	<0.16	<0.16	<0.16	<0.16	**2.0 B**	<0.16	<0.16	<0.16	**1.5 B**	**1.5 B**	**0.16 J**	NS	<0.16
Chloroprene	UG/L	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	NS	<0.21
cis-1,3-Dichloropropene	UG/L	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	NS	<0.16
Dichlorodifluoromethane	UG/L	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	<0.31	NS	<0.31
Ethyl Chloride	UG/L	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	<0.41	NS	<0.41
Ethyl Methacrylate	UG/L	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	<0.86	NS	<0.86
Ethylbenzene	UG/L	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	NS	<0.16
Iodomethane	UG/L	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	<0.23	NS	<0.23
Isobutyl Alcohol	UG/L	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	<37	NS	<37
Meta- And Para-Xylene	UG/L	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	NS	<0.15
Methacrylonitrile	UG/L	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	NS	<1.6
Methyl Bromide	UG/L	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	<0.21	NS	**0.30 J**

Table 1
Groundwater Sampling Results
PlumeStop Phase 1 Pilot Study at Old Outfall 002
Chemours Fayetteville Works
Fayetteville, North Carolina

Location ID		MW-34					MW-35				MW-36				
Date Sampled		05/02/2019	06/19/2019	07/18/2019	08/09/2019	08/09/2019	05/02/2019	06/18/2019	07/17/2019	08/09/2019	05/02/2019	05/02/2019	06/18/2019	07/17/2019	08/09/2019
Sample Purpose		FS	FS	FS	FS	DUP	FS	FS	FS	FS	FS	DUP	FS	FS	FS
Parameter Name	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Methyl Chloride	UG/L	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	**0.41 J**	NS	<0.30
Methyl Ethyl Ketone	UG/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	NS	<2.0
Methyl Isobutyl Ketone	UG/L	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	<0.98	NS	<0.98
Methyl Methacrylate	UG/L	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	NS	<1.1
Methylene Bromide	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	NS	<0.17
Methylene Chloride	UG/L	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	NS	<0.94
Ortho-Xylene	UG/L	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	NS	<0.19
Propionitrile	UG/L	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	<3.7	NS	<3.7
Styrene	UG/L	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	<0.36	NS	<0.36
Tetrachloroethene	UG/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	NS	<0.20
Toluene	UG/L	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	NS	<0.17
trans-1,2-Dichloroethene	UG/L	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	NS	<0.15
trans-1,3-Dichloropropene	UG/L	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	NS	<0.19
trans-1,4-Dichlorobutene-2	UG/L	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	NS	<0.80
Trichloroethene	UG/L	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	NS	<0.16
Trichlorofluoromethane	UG/L	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	<0.29	NS	<0.29
Vinyl Acetate	UG/L	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	<0.94	NS	<0.94
Vinyl Chloride	UG/L	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	NS	<0.10
Xylenes	UG/L	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	<0.19	NS	<0.19
1,4-Dioxane	UG/L	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19	<19	NS	<19
Miscellaneous															
Calcium	MG/L	**1.1 B**	**3.7**	**3.7**	**3.9**	**4**	**3.3**	**2.9**	**3.7**	**3.6**	**2.7**	**2.8**	**4.4**	**9.8**	**5.2**
Calcium	MG/L	**1**	**3.4**	**3.4**	**3.4**	**3.3**	**2.7**	**2.9**	**3.6**	**2.8**	**2.5**	**2.6**	**4.2**	**8.8**	**3.9**
Carbon	MG/L	**1.2**	**5.6**	**1.6**	**0.70 J**	**0.83 J**	**1.2**	**7.9**	**5.6**	**6.1**	**1.3**	**1.3**	**45**	**32**	**29**
Dissolved Organic Carbon	UG/L	**1200 B**	**7900**	**1600**	**1400 B**	**1600 B**	**1400**	**20000**	**5600**	**7300**	**1400**	**1400**	**28000**	**16000**	**13000**
Total Hardness As CaCO3	MG/L	**4.4**	**850**	**13**	**30 J**	**18 J**	**11**	**1200**	**29**	**150 J**	**7.1 J**	**13 J**	**1200**	**220**	<7.5
PFAS (537 Method)															
Perfluorobutane Sulfonic Acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	**0.0024**	<0.0025	<0.0020	<0.0020	**0.0025**	**0.0025**	<0.0020	<0.0020	<0.0020
Perfluorobutanoic Acid	UG/L	**0.06**	**0.0094**	**0.0047**	**0.0028**	**0.0034**	**0.037**	<0.0044	**0.0036**	**0.0034**	**0.046**	**0.048**	**0.017**	**0.0045**	**0.0073**
Perfluorodecanoic Acid	UG/L	**0.0025**	<0.0020	<0.0020	<0.0020	<0.0020	**0.0031**	<0.0039	<0.0020	<0.0020	**0.0027**	**0.0025**	<0.0020	<0.0020	<0.0020
Perfluorododecanoic Acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0069	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoroheptanoic Acid	UG/L	**0.015**	<0.0020	<0.0020	<0.0020	<0.0020	**0.013**	<0.0031	<0.0020	<0.0020	**0.016**	**0.016**	<0.0020	**0.0029**	<0.0020
Perfluorohexane Sulfonic Acid	UG/L	**0.0029**	<0.0020	<0.0020	<0.0020	<0.0020	**0.0036**	**0.0032**	<0.0020	<0.0020	**0.0042**	**0.0039**	<0.0020	<0.0020	<0.0020
Perfluorohexanoic Acid	UG/L	**0.0098**	<0.0020	<0.0020	<0.0020	<0.0020	**0.011**	<0.0073	<0.0020	<0.0020	**0.012**	**0.014**	<0.0020	<0.0020	<0.0020
Perfluorononanoic Acid	UG/L	**0.0067**	<0.0020	<0.0020	<0.0020	<0.0020	**0.0045**	<0.0034	<0.0020	<0.0020	**0.0045**	**0.0046**	<0.0020	<0.0020	<0.0020
Perfluoropentanoic Acid	UG/L	**0.095**	**0.009**	**0.0028**	**0.0021**	**0.0023**	**0.046**	<0.0061	<0.0020	<0.0020	**0.061**	**0.066**	<0.0020	<0.0020	**0.0037**
Perfluoroundecanoic Acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.014	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
PFOA	UG/L	**0.015**	<0.0020	<0.0020	<0.0020	<0.0020	**0.013**	<0.011	<0.0020	<0.0020	**0.018**	**0.019**	<0.0020	<0.0020	<0.0020

Table 1
Groundwater Sampling Results
PlumeStop Phase 1 Pilot Study at Old Outfall 002
Chemours Fayetteville Works
Fayetteville, North Carolina

Location ID		MW-34					MW-35				MW-36				
Date Sampled		05/02/2019	06/19/2019	07/18/2019	08/09/2019	08/09/2019	05/02/2019	06/18/2019	07/17/2019	08/09/2019	05/02/2019	05/02/2019	06/18/2019	07/17/2019	08/09/2019
Sample Purpose		FS	FS	FS	FS	DUP	FS	FS	FS	FS	FS	DUP	FS	FS	FS
Parameter Name	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
PFOS	UG/L	**0.03**	<0.0020	<0.0020	<0.0020	<0.0020	**0.014**	<0.0068	<0.0020	<0.0020	**0.016**	**0.018**	<0.0020	<0.0020	<0.0020
HFPO-Dimer Acid	UG/L	**4.9**	**0.15**	**0.054**	**0.036**	**0.036**	**3.2**	**0.029**	**0.019**	**0.018**	**4.7 J**	**6.1 J**	<0.0040	**0.0061**	**0.035**
Perfluorodecane Sulfonic Acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0040	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorotetradecanoic Acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0036	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorotridecanoic Acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.016	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
10:2 Fluorotelomer sulfonate	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0024	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
perfluorodecanesulfonate (8:2 FTS)	UG/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.025	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
perfluorohexanesulfonate (4:2 FTS)	UG/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.065	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
6:2 Fluorotelomer sulfonate	UG/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.025	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
ADONA	UG/L	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0024	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021
F-53B Major	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0030	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
F-53B Minor	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0040	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
N-methyl perfluorooctane sulfonamidoacetic acid	UG/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.039	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
N-ethyl perfluorooctane sulfonamidoacetic acid	UG/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.024	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
NaDONA	UG/L	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0024	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021
Perfluorododecane sulfonic acid (PFDoS)	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0056	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoroheptane sulfonic acid (PFHpS)	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0024	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorohexadecanoic acid (PFHxDA)	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.011	<0.0020	<0.0020 UJ	<0.0020	<0.0020	<0.0020 UJ	<0.0020	<0.0020
Perfluorononanesulfonic acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorooctadecanoic acid	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0058	<0.0020	<0.0020 UJ	<0.0020	<0.0020	<0.0020 UJ	<0.0020	<0.0020
Perfluorooctane Sulfonamide	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020 UJ	<0.0020	<0.0044 UJ	<0.0020	**0.0034 J**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020 UJ
Perfluoropentane sulfonic acid (PFPeS)	UG/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0038	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
PFAS (Table 3+)															
octanesulfonamide	UG/L	<0.037 UJ	<0.037 UJ	<0.037	<0.037	<0.037	<0.037 UJ	<0.0037 UJ	<0.037	<0.037	<0.037 UJ	<0.037 UJ	<0.0037 UJ	<0.037	<0.037
octanesulfonamido)-ethanol	UG/L	<0.060	<0.060 UJ	<0.060	<0.060	<0.060	<0.060	<0.0060 UJ	<0.060	<0.060	<0.060	<0.060 UJ	<0.0060 UJ	<0.060	<0.060
octanesulfonamido)-ethanol	UG/L	<0.11	<0.11 UJ	<0.11	<0.11	<0.11	<0.11	<0.011 UJ	<0.11	<0.11	<0.11	<0.11 UJ	<0.011 UJ	<0.11	<0.11
Byproduct 4	UG/L	**0.52**	<0.16 UJ	<0.16	<0.16	<0.16	**0.37**	<0.016 UJ	<0.16	<0.16	**0.56 J**	**0.74 J**	<0.016 UJ	<0.16	<0.16
Byproduct 5	UG/L	**0.92 J**	**0.16 J**	**0.091**	<0.058	<0.058	**1.1 J**	**0.026 J**	<0.058	**0.058 J**	**1.4 J**	**1.5 J**	<0.0058 UJ	<0.058	<0.058
Byproduct 6	UG/L	<0.015	<0.015 UJ	<0.015	<0.015	<0.015	<0.015	<0.0020 UJ	<0.015	<0.015	<0.015	**0.016 J**	<0.0020 UJ	<0.015	<0.015
EVE Acid	UG/L	<0.024	<0.024 UJ	<0.024	<0.024	<0.024	<0.024	<0.0024 UJ	<0.024	<0.024	<0.024	<0.024 UJ	<0.0024 UJ	<0.024	<0.024

Table 1
Groundwater Sampling Results
PlumeStop Phase 1 Pilot Study at Old Outfall 002
Chemours Fayetteville Works
Fayetteville, North Carolina

Location ID		MW-34					MW-35				MW-36				
Date Sampled		05/02/2019	06/19/2019	07/18/2019	08/09/2019	08/09/2019	05/02/2019	06/18/2019	07/17/2019	08/09/2019	05/02/2019	05/02/2019	06/18/2019	07/17/2019	08/09/2019
Sample Purpose		FS	FS	FS	FS	DUP	FS	FS	FS	FS	FS	DUP	FS	FS	FS
Parameter Name	Units	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
Hydro-EVE Acid	UG/L	**0.078**	<0.028 UJ	<0.028	<0.028	<0.028	**0.057**	<0.0028 UJ	<0.028	<0.028	**0.068**	**0.081 J**	<0.0028 UJ	<0.028	<0.028
N-methyl perfluoro-1-octanesulfonamide	UG/L	<0.035 UJ	<0.035 UJ	<0.035	<0.035	<0.035	<0.035 UJ	<0.0035 UJ	<0.035	<0.035	<0.035	<0.035 UJ	<0.0035 UJ	<0.035	<0.035
NVHOS	UG/L	**1.3**	**0.25 J**	**0.095**	<0.054	<0.054	**1.2**	**0.075 J**	**0.066**	<0.054	**1.4**	**1.5 J**	<0.0054 UJ	<0.054	<0.054
PEPA	UG/L	**3**	**0.14 J**	<0.047	<0.047	<0.047	**1.5**	**0.038 J**	<0.047	<0.047	**2.3**	**2.8 J**	<0.020 UJ	<0.047	<0.047
PES	UG/L	<0.046	<0.046 UJ	<0.046	<0.046	<0.046	<0.046	<0.0046 UJ	<0.046	<0.046	<0.046	<0.046 UJ	<0.0046 UJ	<0.046	<0.046
PFECA B	UG/L	<0.060	<0.060 UJ	<0.060	<0.060	<0.060	<0.060	<0.0060 UJ	<0.060	<0.060	<0.060	<0.060 UJ	<0.0060 UJ	<0.060	<0.060
PFECA-G	UG/L	<0.041	<0.041 UJ	<0.041	<0.041	<0.041	<0.041	<0.0041 UJ	<0.041	<0.041	<0.041	<0.041 UJ	<0.0041 UJ	<0.041	<0.041
PFESA-BP1	UG/L	**0.052**	<0.027 UJ	<0.027	<0.027	<0.027	**0.04**	<0.0027 UJ	<0.027	<0.027	**0.049**	**0.041 J**	<0.0027 UJ	<0.027	<0.027
PFESA-BP2	UG/L	**0.73**	<0.030 UJ	<0.030	<0.030	<0.030	**0.5**	**0.0051 J**	<0.030	<0.030	**0.51**	**0.54 J**	<0.0030 UJ	<0.030	<0.030
PFMOAA	UG/L	**111 J**	**68 J**	**34**	**26**	**26**	**80**	**16 J**	**26**	**49 J**	**98 J**	**115 J**	**4.9 J**	**26**	**55**
PFO2HxA	UG/L	**22**	**7.0 J**	**2.1**	**1.7**	**1.5**	**17**	**1.8 J**	**1.4**	**1.5**	**22**	**27 J**	**0.013 J**	**0.16**	**2.4**
PFO3OA	UG/L	**5.4**	**0.064 J**	**0.12**	<0.058	<0.058	**4.4**	**0.053 J**	<0.058	<0.058	**5.7**	**6.1 J**	<0.0058 UJ	<0.058	<0.058
PFO4DA	UG/L	**1.3**	<0.079 UJ	<0.079	<0.079	<0.079	**1.1**	**0.017 J**	<0.079	<0.079	**1.4**	**1.5 J**	<0.0079 UJ	<0.079	<0.079
PFO5DA	UG/L	**0.83**	<0.034 UJ	<0.034	<0.034	<0.034	**0.38**	**0.0052 J**	<0.034	<0.034	**0.41**	**0.36 J**	<0.0034 UJ	<0.034	<0.034
PMPA	UG/L	**6.6**	<0.57 UJ	<0.57	**0.78**	<0.57	**3.4**	**0.21 J**	<0.57	**1.1**	**5.1**	**6.8 J**	<0.057 UJ	<0.57	**1**
R-EVE	UG/L	**0.2**	<0.070 UJ	<0.070	<0.070	<0.070	**0.11**	**0.0070 J**	<0.070	<0.070	**0.16**	**0.21 J**	<0.0070 UJ	<0.070	<0.070

Notes:
NS = Not Sampled
< = Not detected at the reported detection limit
J = Estimated Value
UJ = Not detected at the estimated detection limit
FS = Field Sample
DUP = Duplicate Sample

APPENDIX A
BORING AND WELL CONSTRUCTION LOGS

PARSONS INFRASTRUCTURE

4704 Hedgemore Drive

Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

Project Number: 449338

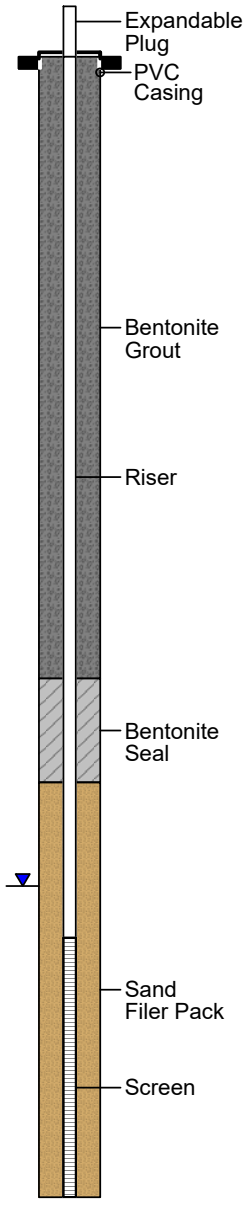
Date Started	: 4/17/2019
Date Completed	: 4/17/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: MW-31

NAD83 1983	: NC SP Coordinates
Northing	: 396390.698
Easting	: 2049622.615
Completed Depth:	: 22'
Boring Depth	: 25'
Elevation/TOC	: 145.478/147.699

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 145.478
0–5	0-5' SILTY SAND: Moderately yellowish brown, fine grained, damp.	SM	145.48 – 140.48
5–8.5	5-8.5' SANDY SILT: Light gray, medium stiff, damp.	ML	140.48 – 137.48
8.5–13.5	8.5-13.5' SAND: Grayish orange, fine grained, well sorted sand, dry.	SP	137.48 – 132.48
13.5–16	13.5-16' SAND: Yellowish orange, medium grained, moist.	SP	132.48 – 129.48
16–18	16-18': Light gray, medium to coarse grained, saturated.	SP	129.48 – 127.48
18–20	18-20': Light gray, fine grained, well sorted sand, wet.	SP	127.48 – 125.48
20–22	20-22': Light gray, medium grained, saturated. Top of clay at 22'.	SP	125.48 – 123.48
22–23.5	22-23.5' CLAY: Dark gray, soft, trace of mica.	CL	123.48 – 122.48
23.5–25	23.5-25' SILTY SAND: Light brown, fine grained, micaceous, moist.	SM	122.48 – 120.48
25	End of Boring at 25'.		

Well: MW-31
TOC Elev: : 147.699



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (17-22')

WELL CONSTRUCTION

Bentonite Grout	: 0-12'
Bentonite Seal	: 12-14'
Sand Filter Pack	: 14-22'

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PARSONS INFRASTRUCTURE
4704 Hedgemore Drive
Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

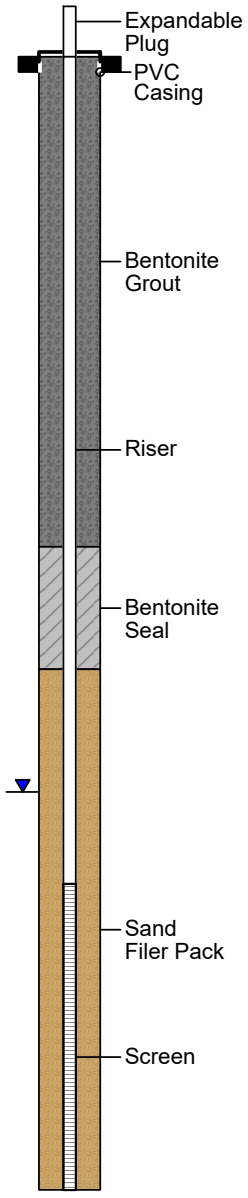
Project Number: 449338

Date Started	: 4/16/2019
Date Completed	: 4/16/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: MW-32

NAD83 1983	: NC SP Coordinates
Northing	: 396359.33
Easting	: 2049651.86
Completed Depth:	: 18.5'
Boring Depth	: 20'
Elevation/TOC	: 144.633/147.106

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 144.633
0			144.63
1	0-5' SAND: Brown, fine grained.	SP	143.63
2			142.63
3			141.63
4			140.63
5			139.63
6	5-8' SANDY CLAY: Moderate yellow brown, very stiff, damp.	CL	138.63
7			137.63
8			136.63
9	8-10' SAND: Yellowish orange to light brown, fine to medium grained, dry.	SP	135.63
10	10-11': Damp. 3" clay layer at 11'.	SP	134.63
11			133.63
12	11-13.5': Yellowish gray, fine to medium grained, wet at 12'.	SP	132.63
13			131.63
14	13.5-15': Light gray medium grained, saturated.	SP	130.63
15			129.63
16	15-18.5': Light gray, medium to coarse grained, loose, saturated.	SP	128.63
17			127.63
18			126.63
19	18.5-20' CLAY: Light brown and light gray, plastic, soft, damp.	CL	125.63
20	End of Boring at 20'.		124.63
21			123.63
22			



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5.0' (13.5-18.5')

WELL CONSTRUCTION

Bentonite Grout	: 0-8'
Bentonite Seal	: 8-10'
Sand Filter Pack	: 10-18.5'

PARSONS INFRASTRUCTURE

4704 Hedgemore Drive

Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

Project Number: 449338

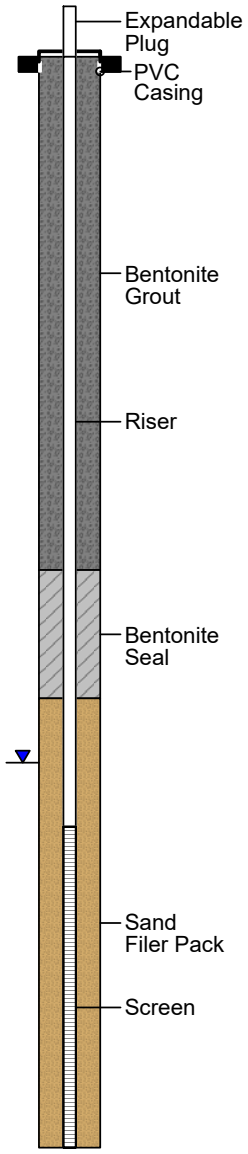
Date Started	: 4/16/2019
Date Completed	: 4/16/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: MW-33

NAD83 1983	: NC SP Coordinates
Northing	: 396337.57
Easting	: 2049678.92
Completed Depth:	: 17'
Boring Depth	: 20'
Elevation/TOC	: 144.283/146.82

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 144.283
0	0-5' SANDY CLAY: Light brown, damp.	CL	144.28
5	5-7.5': Medium gray, medium stiff, damp.	CL	139.28
7.5	7.5-9' SILTY SAND: Light gray, fine grained, well sorted, damp.	SM	136.28
9	9-10' SAND: Yellowish orange, fine to medium grained, damp.	SP	135.28
10	10-11': Very light to medium gray, fine grained, well sorted, very moist.	SP	134.28
11	11-15': White to light gray, medium grained with trace of coarse grained, very saturated.	SP	133.28
15	15-17': Light gray, medium to coarse grained, grains are subangular to subrounded, trace of heavy minerals, very wet. Top of clay at 17'.	SP	129.28
17	17-19.5' CLAY: Brown and yellowish orange, plastic, soft, moist.	CL	127.28
19.5	19.5-20': Dark gray.	CL	124.28
20	End of Boring at 20'.		

Well: MW-33
TOC Elev: : 146.82



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (12-17')

WELL CONSTRUCTION

Bentonite Grout	: 0-8'
Bentonite Seal	: 8-10'
Sand Filter Pack	: 10-17'

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PARSONS INFRASTRUCTURE

4704 Hedgemore Drive

Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

Project Number: 449338

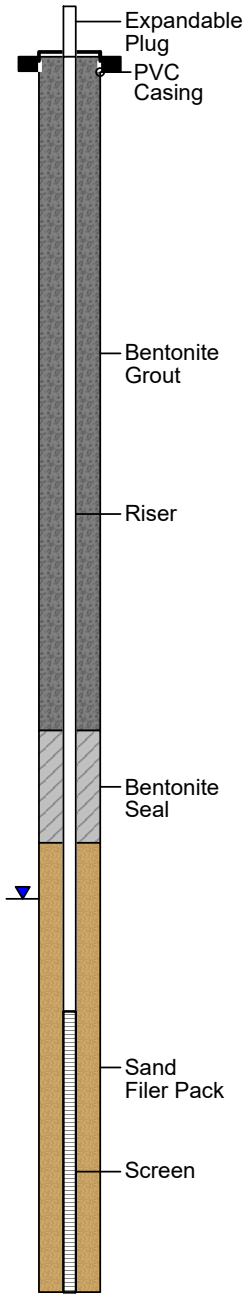
Date Started	: 4/17/2019
Date Completed	: 4/17/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: MW-34

NAD83 1983	: NC SP Coordinates
Northing	: 396352.67
Easting	: 2049619.25
Completed Depth:	: 22'
Boring Depth	: 24'
Elevation/TOC	: 145.17/147.972

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 145.17
0			145.17
1	0-5' SILTY SAND: Brown, fine grained.	SM	144.17
2			143.17
3			142.17
4			141.17
5			140.17
6	5-8' SANDY CLAY: Olive gray, firm, damp.	CL	139.17
7			138.17
8			137.17
9	8-10' SAND: Yellowish orange, fine grained, well sorted, damp.	SP	136.17
10			135.17
11	10-15': Yellowish orange, fine to medium grained, loose, well sorted, moist at 14.5'.	SP	134.17
12			133.17
13			132.17
14			131.17
15			130.17
16	15-20': Light gray, medium to coarse grained, loose, very saturated.	SP	129.17
17			128.17
18			127.17
19			126.17
20			125.17
21	20-22': Saturated.	SP	124.17
22			123.17
23	22-24' CLAY: Dark gray, soft, plastic, damp. End of Boring at 24'.	CL	122.17
24			

Well: MW-34
TOC Elev: : 147.972



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (17-22')

WELL CONSTRUCTION

Bentonite Grout	: 0-12'
Bentonite Seal	: 12-14'
Sand Filter Pack	: 14-22'

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PARSONS INFRASTRUCTURE

4704 Hedgemore Drive

Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

Project Number: 449338

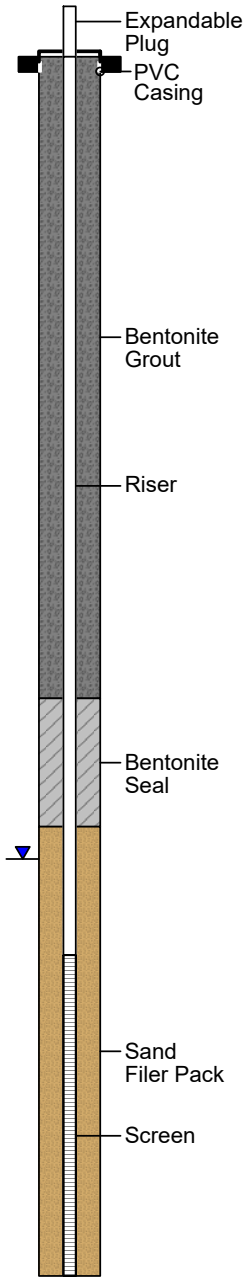
Date Started	: 4/16/2019
Date Completed	: 4/16/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: MW-35

NAD83 1983	: NC SP Coordinates
Northing	: 396332.97
Easting	: 2049631.43
Completed Depth:	: 19'
Boring Depth	: 20'
Elevation/TOC	: 145.025/147.541

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 145.025
0			145.03
1	0-5' SILTY SAND: Brown, fine grained.	SM	144.03
2			143.03
3			142.03
4			141.03
5			140.03
6	5-8' SANDY CLAY: Olive gray, firm, trace organics, damp.	CL	139.03
7			138.03
8			137.03
9	8-9.5' SAND: Yellowish orange, fine to medium grained, loose, damp.	SP	136.03
10	9.5-11': Light gray, moist.	SP	135.03
11			134.03
12	11-12.5' SANDY CLAY: Light gray.	CL	133.03
13	12.5-13' SAND: Light gray, very fine to fine grained, wet.	SP	132.03
14	13-15': Light gray to grayish orange, fine to medium grained, saturated.	SP	131.03
15			130.03
16	15-16': Wet.	SP	129.03
17	16-19': light gray, medium to coarse grained, very saturated.	SP	128.03
18			127.03
19			126.03
20	19-20' CLAY: Dark gray, soft, damp.	CL	125.03
21	End of Boring at 20'.		

Well: MW-35
TOC Elev: : 147.541



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (14-19')

WELL CONSTRUCTION

Bentonite Grout	: 0-10'
Bentonite Seal	: 10-12'
Sand Filter Pack	: 12-19'

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PARSONS INFRASTRUCTURE

4704 Hedgemore Drive

Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

Project Number: 449338

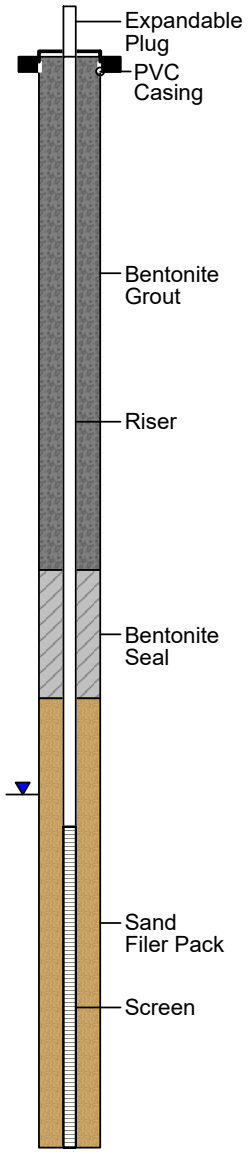
Date Started	: 4/16/2019
Date Completed	: 4/16/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: MW-36

NAD83 1983	: NC SP Coordinates
Northing	: 396319.84
Easting	: 2049651.34
Completed Depth:	: 17'
Boring Depth	: 20'
Elevation/TOC	: 144.684/147.889

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 144.684
0			144.68
1	0-5' SILTY SAND: Brown, fine grained, damp.	SM	143.68
2			142.68
3			141.68
4			140.68
5			139.68
6			138.68
7	7-8' SAND: Brown, medium grained.	SP	137.68
8	8-10.5': Light gray yellowish orange, fine to		136.68
9	medium grained, well sorted, trace of mica, very moist at 10'.	SP	135.68
10			134.68
11	10.5-11.5' CLAY: Brown, medium stiff, damp.	CL	133.68
12	11.5-13.5' SAND: Yellowish orange, fine to medium	SP	132.68
13	grained, well sorted, very saturated.		131.68
14	13.5-15': Light gray.	SP	130.68
15			129.68
16	15-17': Light gray, medium to coarse grained, grains are subangular to subrounded, very saturated.	SP	128.68
17			127.68
18	17-19' CLAY: Yellowish orange, plastic, soft, damp.	CL	126.68
19	19-20': Dark gray, soft, plastic, damp.	CL	125.68
20	End of Boring at 20'.		124.68
21			

Well: MW-36
TOC Elev: : 147.889



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (12-17')

WELL CONSTRUCTION

Bentonite Grout	: 0-8'
Bentonite Seal	: 8-10'
Sand Filter Pack	: 10-17'

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PARSONS INFRASTRUCTURE
4704 Hedgemore Drive
Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling
Well Replacement Around Sediment Ponds

Project Number: 449338

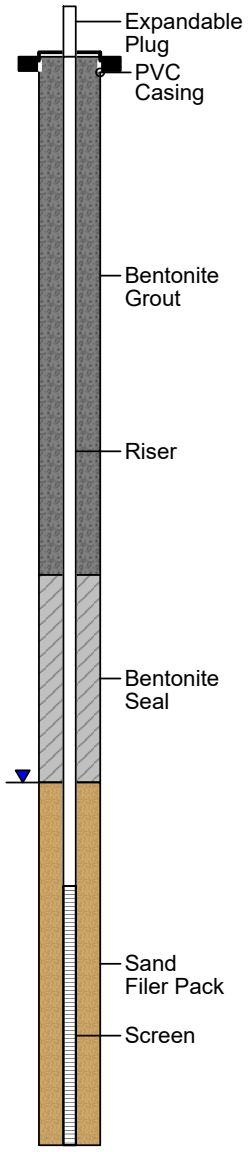
Date Started	: 4/25/2019
Date Completed	: 4/25/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Brandon Weidner

LOG OF BORING: PZ-19R

NAD83 1983	: NC SP Coordinates
Northing	: 397998.75
Easting	: 2049919.29
Completed Depth:	: 21'
Boring Depth	: 25'
Elevation/TOC	: 147.62/150.046

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 147.62
0	0-8.5' SILTY SAND: Light brown, fine grained, damp.	SM	147.62
9	8.5-10': Light gray, fine to medium grained, damp.	SM	138.62
10	10-12' SAND: Light gray, medium grained, damp.	SP	137.62
12	12-13' CLAY SAND: Light gray, clay lens at 13', damp.	SC	135.62
13	13-15' SAND: Light gray, fine grained, heavy minerals present, wet at 14'.	SP	134.62
15	15-17': Light gray, fine to medium grained, clay lens at 16.5', subangular grains, wet.	SP	132.62
17	17-20': Light gray, medium grained, wet.	SP	130.62
20	20-21.5': Brown yellowish orange, fine to medium grained, wet.	SP	127.62
21.5	21.5-23' CLAY: Brown and dark gray, stiff, mica present, low plasticity.	CL	125.62
23	23-25' CLAY SAND: Dark gray, fine grained, organic rich, trace of mica.	SC	124.62
25	End of Boring at 25'.		122.62

Well: PZ-19R
TOC Elev: : 150.046



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (16-21')

WELL CONSTRUCTION

Bentonite Grout	: 0-10'
Bentonite Seal	: 10-14'
Sand Filter Pack	: 14-21'

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PARSONS INFRASTRUCTURE
4704 Hedgemore Drive
Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling
Well Replacement Around Sediment Ponds

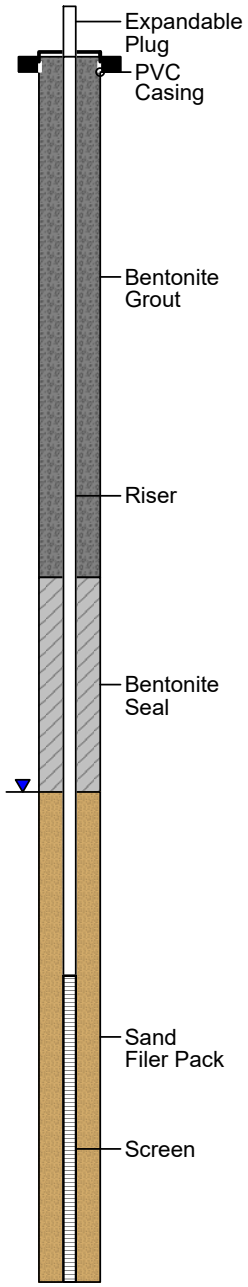
Project Number: 449338

Date Started	: 4/25/2019
Date Completed	: 4/25/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Brandon Weidner

LOG OF BORING: PZ-20R

NAD83 1983	: NC SP Coordinates
Northing	: 398186.02
Easting	: 2049784.84
Completed Depth:	: 20'
Boring Depth	: 21'
Elevation/TOC	: 148.15/151.29

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 148.15	Depth in feet
0			148.15	0
1	0-7.5' SILTY SAND: Light brown, fine grained, backfill from rebuild of sediment ponds, damp.	SM	147.15	1
2			146.15	2
3			145.15	3
4			144.15	4
5			143.15	5
6			142.15	6
7			141.15	7
8	7.5-10': Light brown, medium grained, damp.	SM	140.15	8
9			139.15	9
10			138.15	10
11	10-15' SAND: Yellowish orange light brown and light gray, medium to coarse grained, loose sub-angular coarse grains, heavy minerals at 14', wet at 12'.	SP	137.15	11
12			136.15	12
13			135.15	13
14			134.15	14
15			133.15	15
16	15-18': Light gray, medium to coarse grained, heavy minerals present, wet.	SP	132.15	16
17			131.15	17
18	18-20' Light gray, fine grained, wet.	SP	130.15	18
19			129.15	19
20	20-21' CLAY: Light brown, plastic, soft.	CL	128.15	20
21	End of Boring at 21'.		127.15	21
22				22



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (15-20')

WELL CONSTRUCTION

Bentonite Grout	: 0-8.5'
Bentonite Seal	: 8.5-12'
Sand Filter Pack	: 12-20'

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PARSONS INFRASTRUCTURE
4704 Hedgemore Drive
Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling
Well Replacement Around Sediment Ponds

Project Number: 449338

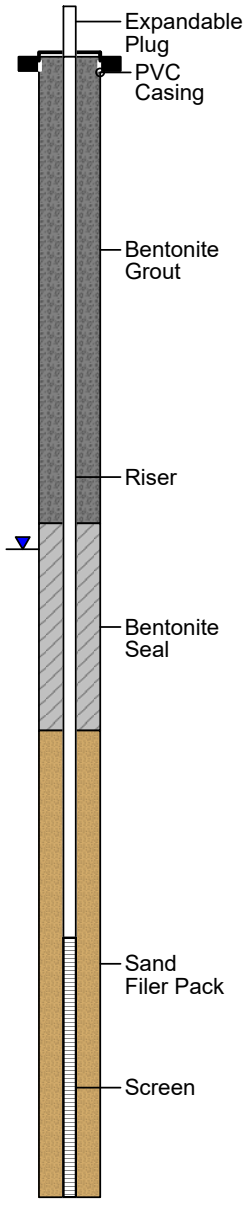
Date Started	: 4/29/2019
Date Completed	: 4/29/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Brandon Weidner

LOG OF BORING: PZ-21R

NAD83 1983	: NC SP Coordinates
Northing	: 398444.98
Easting	: 2049883.07
Completed Depth:	: 22'
Boring Depth	: 25'
Elevation/TOC	: 147.77/150.674

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 147.77
0–8	0-8.5' SILTY SAND: Light brown, fine grained, damp.	SM	147.77 – 139.77
8–9	8.5-10' SAND: Yellowish orange light brown, fine to medium grained, heavy minerals present, wet at 9.5'.	SP	139.77 – 138.77
9–11	10-12' CLAYEY SAND: Light to moderate brown, fine grained, damp.	SC	138.77 – 136.77
11–14	12-15' SAND: Light brown yellowish orange, light gray to grayish orange, fine grained, heavy minerals present, well sorted, wet.	SP	136.77 – 133.77
14–19	15-20': Light gray, fine to medium grained, subangular grains, heavy minerals present, wet.	SP	133.77 – 128.77
19–21	20-22': Light brown yellowish orange and gray, medium grained, clay lens present.	SP	128.77 – 126.77
21–22	22-22.5': Black organic rich layer, fine grained, wet.	SP	126.77 – 125.77
22–25	22.5-25' CLAY: Dark gray, plastic, soft to stiff, wood fragments present.	CL	125.77 – 122.77
25	End of Boring at 25.		

Well: PZ-21R
TOC Elev: : 150.674



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (17-22')

WELL CONSTRUCTION

Bentonite Grout	: 0-9'
Bentonite Seal	: 9-13'
Sand Filter Pack	: 13-22'

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PARSONS INFRASTRUCTURE

4704 Hedgemore Drive

Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

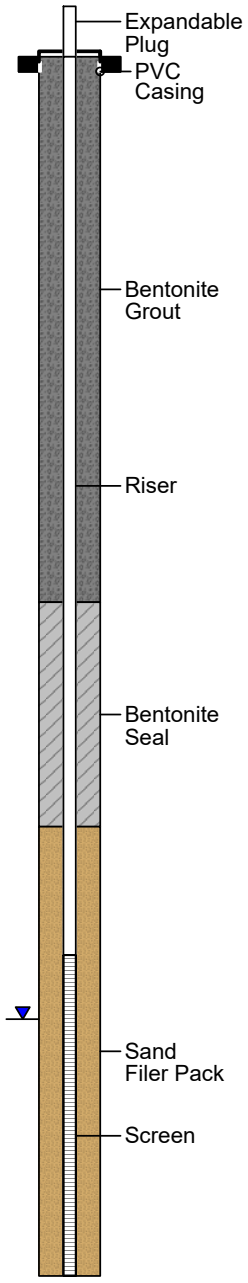
Project Number: 449338

Date Started	: 4/23/2019
Date Completed	: 4/23/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Brandon Weidner

LOG OF BORING: PZ-31

NAD83 1983	: NC SP Coordinates
Northing	: 396429.034
Easting	: 2049594.106
Completed Depth:	: 19'
Boring Depth	: 20'
Elevation/TOC	: 144.906/147.999

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 144.906
0	0-5' SILTY SAND: Brown, fine grained, damp.	SM	144.91
5	5-9' SANDY CLAY: Light brown and light gray, fine grained, damp.	CL	139.91
9	9-10' SAND: Light gray, fine grained, trace of micas, moist.	SP	135.91
10	10-12.5': No recovery.	NR	134.91
12.5	12.5-14.5': Brown and light gray, fine grained, layers of loose dry sand (fine to medium grained), moist.	SP	131.91
14.5	14.5-15': Light brown yellowish orange, medium grained, clay lens, wet at 15'.	SP	130.91
15	15-16': Yellowish orange, medium grained, small clay lens, wet.	SP	129.91
16	16-19': Light gray, medium to coarse grained, heavy minerals present, wet.	SP	128.91
19	19-20' CLAY: Light brown to moderate brown, plastic, soft, damp.	CL	125.91
20	End of Boring at 20'.		124.91



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (14-19')

WELL CONSTRUCTION

Bentonite Grout	: 0-8.5'
Bentonite Seal	: 8.5-12'
Sand Filter Pack	: 12-19'

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PARSONS INFRASTRUCTURE

4704 Hedgemore Drive

Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

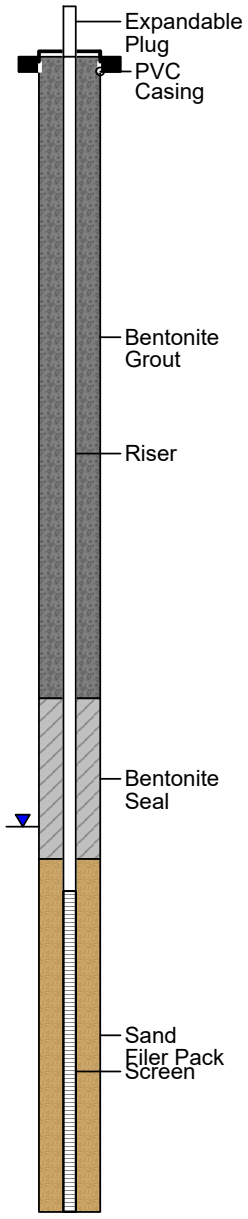
Project Number: 449338

Date Started	: 4/23/2019
Date Completed	: 4/23/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: PZ-32

NAD83 1983	: NC SP Coordinates
Northing	: 396418.822
Easting	: 2049713.667
Completed Depth:	: 18'
Boring Depth	: 20'
Elevation/TOC	: 145.358/148.471

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 145.358
0			145.36
1	0-5' SILTY SAND: Light brown, fine grained, damp.	SM	144.36
2			143.36
3			142.36
4			141.36
5			140.36
6	5-8' SANDY CLAY: Light brown yellowish orange, fine grained, damp.	CL	139.36
7			138.36
8			137.36
9	8-12' SAND: Yellowish gray, fine grained, heavy minerals present, loose, damp.	SP	136.36
10			135.36
11			134.36
12			133.36
13	12-14': Light brown yellowish orange, medium to coarse grained, clay lens, wet at 12'.	SP	132.36
14			131.36
15	14-18': Light gray, medium to coarse grained, wet.	SP	130.36
16			129.36
17			128.36
18			127.36
19	18-20' CLAY: Light brown to moderate brown, plastic, soft, damp.	CL	126.36
20			125.36
21	End of Boring at 20'.		



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (13-18')

WELL CONSTRUCTION

Bentonite Grout	: 0-10'
Bentonite Seal	: 10-12.5'
Sand Filter Pack	: 12.5-18'

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PARSONS INFRASTRUCTURE

4704 Hedgemore Drive

Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

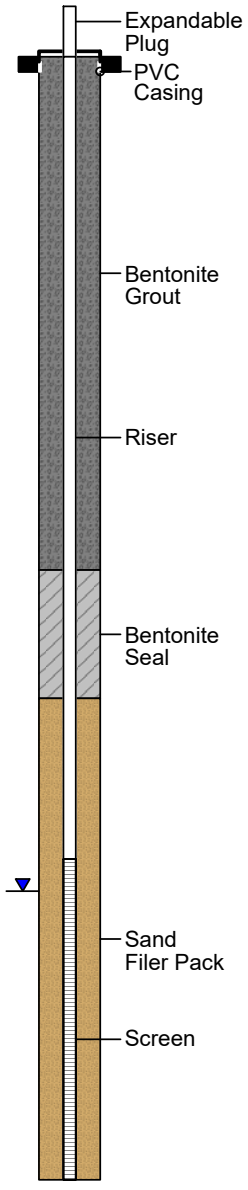
Project Number: 449338

Date Started	: 4/15/2019
Date Completed	: 4/15/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: PZ-33

NAD83 1983	: NC SP Coordinates
Northing	: 396308.969
Easting	: 2049707.988
Completed Depth:	: 17.5'
Boring Depth	: 20'
Elevation/TOC	: 143.94/146.715

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 143.94
0	0-5' SANDY CLAY: Light brown, damp.	CL	143.94
5	5-7.5': Light gray and yellowish orange, very stiff, trace of organics.	CL	138.94
7.5	7.5-10' SAND: Light gray and yellowish orange, fine to medium grained, well sorted, damp.	SP	135.94
10	10-11' CLAY: Light gray, soft.	CL	133.94
11	11-13' SAND: Yellowish orange, fine grained, well sorted, wet.	SP	132.94
13	13-15': Light gray, medium grained, saturated.	SP	130.94
15	15-17.5': Light gray, medium to coarse grained, poorly sorted, subangular, very wet. Top of clay at 17.5'.	SP	128.94
17.5	17.5-20' CLAY: Dark gray and yellowish orange, plastic, soft, damp.	CL	125.94
20	End of Boring at 20'.		123.94



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (12.5-17.5')

WELL CONSTRUCTION

Bentonite Grout	: 0-8'
Bentonite Seal	: 8-10'
Sand Filter Pack	: 10-17.5'

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PARSONS INFRASTRUCTURE

4704 Hedgemore Drive

Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

Project Number: 449338

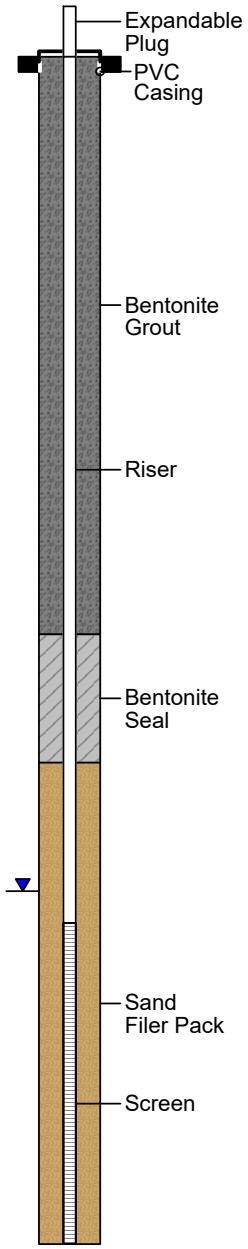
Date Started	: 4/15/2019
Date Completed	: 4/15/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: PZ-34

NAD83 1983	: NC SP Coordinates
Northing	: 396291.786
Easting	: 2049595.138
Completed Depth:	: 18.5'
Boring Depth	: 20'
Elevation/TOC	: 144.942/147.695

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 144.942	Depth in feet
0			144.94	0
1	0-5' SAND: Light brown, fine grained, damp.	SP	143.94	1
2			142.94	2
3			141.94	3
4			140.94	4
5	5-9': Yellowish orange, fine grained, well sorted, dry.	SP	139.94	5
6			138.94	6
7			137.94	7
8			136.94	8
9	9-10' SANDY CLAY: Light gray, stiff, damp.	SC	135.94	9
10	10-13' SAND: Very light gray, fine grained, damp.	SP	134.94	10
11			133.94	11
12			132.94	12
13	13-15': Very light gray and light brown, medium to coarse grained, wet.	SP	131.94	13
14			130.94	14
15	15-16.5': Light gray, fine grained, wet.	SP	129.94	15
16			128.94	16
17	16.5-18.5': Light gray, medium to coarse grained, poorly sorted, trace of pebbles, wet. Top of clay at 18.5'.	SP	127.94	17
18			126.94	18
19	18.5-20' CLAY: Dark gray, plastic, soft, damp.	CL	125.94	19
20	End of Boring at 20'.		124.94	20
21				21

Well: PZ-34
TOC Elev: : 147.695



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (13.5-18.5')

WELL CONSTRUCTION

Bentonite Grout	: 0-9'
Bentonite Seal	: 9-11'
Sand Filter Pack	: 11-18.5'

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PARSONS INFRASTRUCTURE

4704 Hedgemore Drive

Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling
Well Replacement Around Sediment Ponds

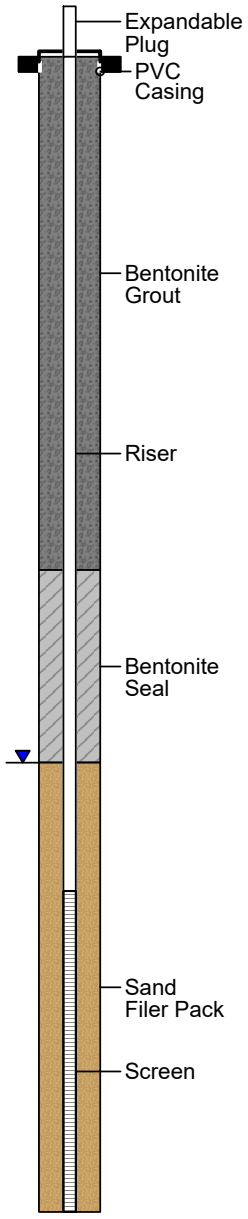
Project Number: 449338

Date Started	: 4/29/2019
Date Completed	: 4/29/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Brandon Weidner

LOG OF BORING: PZ-35

NAD83 1983	: NC SP Coordinates
Northing	: 398232.411
Easting	: 2050020.39
Completed Depth:	: 18'
Boring Depth	: 20'
Elevation/TOC	: 147.908/150.43

Depth in feet	DESCRIPTION	USCS	Surf. Elev. 147.908
0–8	0-8.5' SILTY SAND: Light brown, fine grained, backfill from sediment pond construction, damp.	SM	147.91 – 139.91
8–9	8.5-10' SAND: Yellowish orange light brown and light gray, fine to medium grained, trace of heavy minerals, damp.	SP	138.91
9–10		SP	137.91
10–11	10-11': Gray, fine to medium grained, damp.		
11–15	11-15': Light gray to very light gray, medium grained, heavy minerals present, subangular grains, loose, wet at 11'.	SP	136.91 – 132.91
15–18	15-18': Light gray yellowish orange and brown, fine to medium grained, loose grains, wet.	SP	132.91 – 129.91
18–19	18-19' CLAY: Yellowish orange light brown, soft, low plasticity, damp.	CL	129.91
19–20	19-20': Dark gray, soft, plastic, damp.	CL	128.91 – 127.91
20	End of Boring at 20'.		



Well Construction Information

WELL RISER

Material	: PVC
Diameter	: 2"

WELL SCREEN

Material	: Schedule 40 PVC
Diameter	: 2"
Slot Size	: 0.010"
Length	: 5' (13-18')

WELL CONSTRUCTION

Bentonite Grout	: 0-8'
Bentonite Seal	: 8-11'
Sand Filter Pack	: 11-18'

PARSONS INFRASTRUCTURE
4704 Hedgemore Drive
Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

Project Number: 449338

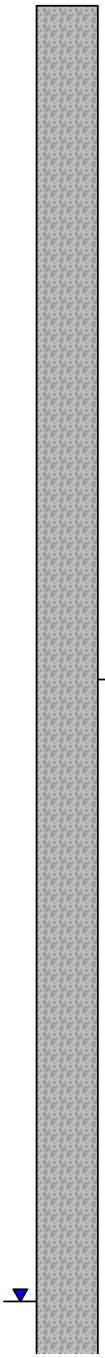
Date Started	: 4/10/2019
Date Completed	: 4/10/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: SB-200

NAD83 1983	: NC SP Coordinates
Northing	: 396326.359
Easting	: 2049216.611
Completed Depth:	: 99'
Boring Depth	: 99'
Elevation/TOC	:

Depth in feet	DESCRIPTION	USCS	GRAPHIC
0	0-5 SAND: Yellowish orange, fine to medium grained, loose, damp.	SP	
9	5-13': Very light gray to light gray, fine to medium grained, moist at 9'.	SP	
13	13-15' SILTY SAND: Light brown, fine to medium grained, well sorted, moist.	SM	
15	15-19' SAND: Very light gray, fine to medium grained, loose, trace of mica and organics, damp to moist.	SP	
19	19-20': Yellowish orange.	SP	
20	20-25': Yellowish orange to light brown with very light gray in places, fine to medium grained, trace amounts of mica and organics, very moist at 24'.	SP	
25	25-30' SILTY SAND:	SM	

Boring: SB-200



REMARKS

PARSONS INFRASTRUCTURE
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Fayetteville Phase I Pilot Study Drilling

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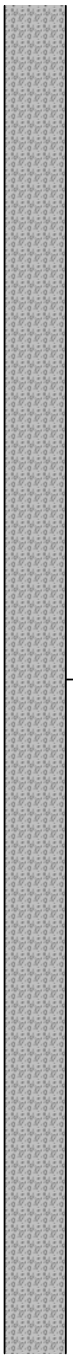
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: SB-200

NAD83 1983	: NC SP Coordinates
Northing	: 396326.359
Easting	: 2049216.611
Completed Depth:	: 99'
Boring Depth	: 99'
Elevation/TOC	:

Depth in feet	DESCRIPTION	USCS	GRAPHIC
26–30	25-30' SILTY SAND continued: Yellowish orange to light brown, fine to medium grained, trace amount of mica with black organic lenses, saturated.	SM	
30–35	30-35' SAND: Moderate red, dusty red, light brown and very light gray, medium to coarse grained, clay lense at 34', wet.	SP	
35–40	35-40': Very light gray, medium grained, well sorted, subangular grains, trace amount of mica, very wet.	SP	
40–50	40-50': Grayish orange, trace of organic material from 44-45', very wet.	SP	
50–52	50-62': Moderate red, yellowish orange and light gray, medium to coarse grained, trace amount of organics at 55', wet. Silty sand at 60-61'.	SP	

Boring: SB-200



REMARKS

08-15-2019 F:\Logs\Fayetteville\SB-200.bor

PARSONS INFRASTRUCTURE 4704 Hedgemore Drive Charlotte, North Carolina 28209	Date Started : 4/10/2019 Date Completed : 4/10/2019 Drilling Method : Hollow Stem Auger Sampling Method : Macrocore Drilling Firm : Cascade Lead Driller : Danny Ferrell Lead Driller License # : NCWC3221-B Geologist : Marc Harder Boring Log By : Marc Harder	LOG OF BORING: SB-200 (Page 3 of 4) NAD83 1983 : NC SP Coordinates Northing : 396326.359 Easting : 2049216.611 Completed Depth: : 99' Boring Depth : 99' Elevation/TOC :
The Chemours Company FC, LLC Fayetteville Phase I Pilot Study Drilling		
Project Number: 449338		

Depth in feet	DESCRIPTION	USCS	GRAPHIC	Depth in feet	Boring: SB-200	REMARKS
52		SP		52		
53				53		
54				54		
55				55		
56				56		
57				57		
58				58		
59				59		
60	Silty sand at 60'.	SP		60		
61				61		
62		SP		62		
63	62-70': Light gray, medium to coarse grained, loose, trace amount of heavy minerals, subrounded grains, very saturated.			63		
64				64		
65				65	Bentonite Grout	
66				66		
67				67		
68				68		
69				69		
70		NR		70		Drill with Sonic rig down to 70' where coring began.
71	70-75': No recovery. Core stuck in casing.			71		
72				72		
73				73		
74				74		
75		SM		75		
76	75-77' SILTY SAND: Dark gray, fine grained, well sorted, micaceous, wet.			76		
77		NR		77		
78	77-80': No Recovery.			78		

PARSONS INFRASTRUCTURE
4704 Hedgemore Drive
Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

Project Number: 449338

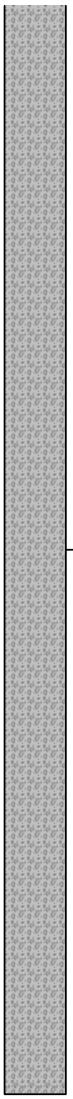
Date Started	: 4/10/2019
Date Completed	: 4/10/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: SB-200

NAD83 1983	: NC SP Coordinates
Northing	: 396326.359
Easting	: 2049216.611
Completed Depth:	: 99'
Boring Depth	: 99'
Elevation/TOC	:

Depth in feet	DESCRIPTION	USCS	GRAPHIC
78–80		NR	
80–84	80-84' SILTY SAND: Dark gray to black, fine to medium grained, micaceous, organic rich, wet.	SM	
84–89	84-89' SAND: Light to medium gray, medium to coarse grained, trace amounts of mica and organic material (wood fragments), clay lense at 88', saturated.	SP	
89–99	89-99' CLAY: Dark gray, hard.	CL	
99	End of Boring at 99'.		

Boring: SB-200



REMARKS

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PARSONS INFRASTRUCTURE
4704 Hedgemore Drive
Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

Project Number: 449338

Date Started	: 4/10/2019
Date Completed	: 4/10/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: SB-201

NAD83 1983	: NC SP Coordinates
Northing	: 396331.564
Easting	: 2049271.945
Completed Depth:	: 30'
Boring Depth	: 30'
Elevation/TOC	:

Depth in feet	DESCRIPTION	USCS	GRAPHIC
0–5	0-5 SILTY SAND: Yellowish orange, fine grained, dry.	SM	
5–8	5-8' SANDY CLAY: Brown, firm, damp.	CL	
8–9	8-9' SILTY SAND: Yellowish gray and light gray, fine grained, damp.	SM	
9–15	9-10' SAND: Yellowish orange, fine to medium grained, trace of organics, damp. 10-13.5': Damp. 13.5-15': Moist.	SP	
15–20	15-20': Yellowish orange and light gray, fine grained, well sorted, loose, damp.	SP	
20–25	20-25' SILTY SAND: Pale yellowish brown, fine to medium grained, damp.	SM	
25–30	25-30' SAND: Light gray, fine to medium grained, loose, trace amount of mica, damp.	SP	
30	End of Boring at 30'.		

Boring: SB-201

Bentonite Chips

REMARKS

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PARSONS INFRASTRUCTURE
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Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

Project Number: 449338

Date Started	: 4/11/2019
Date Completed	: 4/11/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: SB-202

NAD83 1983	: NC SP Coordinates
Northing	: 396378.554
Easting	: 2049613.257
Completed Depth:	: 25'
Boring Depth	: 25'
Elevation/TOC	:

Depth in feet	DESCRIPTION	USCS	GRAPHIC
0–5	0-5 SILTY SAND: Light brown, fine grained, damp.	SM	
5–8	5-8' SANDY CLAY: Brown, firm, trace amount of organics, damp.	CL	
8–13	8-10' SAND: Grayish yellow, fine grained, well sorted, dry. 10-13': Moist.	SP	
13–15	13-15'' SAND: Grayish yellow to light brown, medium to coarse grained, wet at 14'.	SP	
15–20	15-20': Light gray with tints of light red, medium grained, well sorted, very saturated.	SP	
20–22	20-22': No Recovery.	NR	
22–24	22-24' CLAY: Dark gray, soft, plastic, trace amount of organics, damp.	CL	
24–25	24-25' SILTY SAND: Yellowish orange, light brown and moderate red, micaceous, moist.	SM	
25	End of Boring at 25'.		

Boring: SB-202

Bentonite Chips

REMARKS

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PARSONS INFRASTRUCTURE
4704 Hedgemore Drive
Charlotte, North Carolina 28209

The Chemours Company FC, LLC
Fayetteville Phase I Pilot Study Drilling

Project Number: 449338

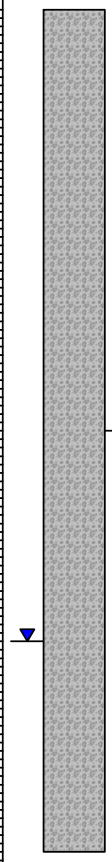
Date Started	: 4/11/2019
Date Completed	: 4/11/2019
Drilling Method	: Hollow Stem Auger
Sampling Method	: Macrocore
Drilling Firm	: Cascade
Lead Driller	: Danny Ferrell
Lead Driller License #	: NCWC3221-B
Geologist	: Marc Harder
Boring Log By	: Marc Harder

LOG OF BORING: SB-203

NAD83 1983	: NC SP Coordinates
Northing	: 396335.786
Easting	: 2049660.083
Completed Depth:	: 20'
Boring Depth	: 20'
Elevation/TOC	:

Depth in feet	DESCRIPTION	USCS	GRAPHIC
0	0-5 SILTY SAND: Brown, fine grained, damp.	SM	
5	5-8' SANDY CLAY: Brown, firm, damp.	CL	
8	8-12' SAND: Yellowish orange, fine to medium grained with trace amounts of coarse grains, loose, dry.	SP	
12	12-12.5' CLAY: Medium gray, soft, damp.	CL	
12.5	12.5-15' SAND: Light gray and yellowish orange, fine to medium grained, well sorted, moist at 13'.	SP	
15	15-19.5': Greenish gray, medium to coarse grained, loose, very saturated.	SP	
19.5	19.5-20' CLAY: Dark gray, soft, plastic, damp.	CL	
20	End of Boring at 20'.		

Boring: SB-203



REMARKS

APPENDIX B
REGENESIS BENCH SCALE TESTING REPORT

To: Michael Robinson, PARSONS

From: Kristen Thoreson & Chad Northington, REGENESIS

Date: September 6, 2019

Re: Treatability Study: Adsorption measurements using PlumeStop® Liquid Activated Carbon™

INTRODUCTION

REGENESIS has performed laboratory testing to demonstrate the efficacy of PlumeStop® as an *in situ* technology for the treatment of GenX (HFPO Dimer Acid) and PFMOAA as well as other fluorinated compounds and VOCs present in the perched groundwater zone at the subject site. Specifically, the intent of the testing was to determine if the characteristics of the site matrix were amenable to sorption of the contaminants by PlumeStop at doses that would be encountered in the field. While PlumeStop has been demonstrated to effectively bind different species in a range of conditions, it is possible that the groundwater at the subject site contains other organic molecules that could impact contaminant binding to PlumeStop by creating competition for sorption sites.

PlumeStop® Liquid Activated Carbon is a colloidal activated carbon *in situ* technology that can distribute widely in groundwater and quickly adsorb contaminants. The goal of this laboratory test was to demonstrate the ability of PlumeStop® to achieve rapid and sustained sorption of contaminants from site groundwater.

EXPERIMENTAL SECTION

Soil Samples

The soil used in this study was sampled from the perched zone at the subject site and shipped by Chemours Fayetteville Works to Regenesis on 4/16/19. The samples were received in good condition by Regenesis Lab on 4/23/19. Approximately 40 lb of site soil was received on ice in one container within a bucket labeled with the following sample name: SB-202 13-19' Chemours Fay Works 4/15/19. The soil samples were stored in its original sampling container at 5°C prior to use in the study.

Groundwater Samples

The groundwater used in this study was sampled from the site and shipped by Chemours Fayetteville Works to Regenesis. Samples were received by Regenesis Lab on 5/1/19. Approximately 50 L of site groundwater was provided on ice in 13 1-gallon containers. The containers were labeled Chemours Fay Works, NC Phase 1 Study MW-32 4/24/19. The groundwater sample was stored in its original sampling container at 5°C prior to use in the study.

Analytical Methodology

Throughout the treatability study, groundwater samples were sent to EuroFins TestAmerica (Sacramento, CA) for all PFAS-related analysis. Analysis methods included EPA 537 MOD MAX and Table 3+. The full summary of all analytical data can be found under 'Appendix A.'

A baseline groundwater sample was also analyzed for volatile organic compounds (VOC) and total organic compounds (TOC) to gauge the demand for sorption sites on the activated carbon by other species. Analyses were performed by Advanced Technology Labs (Garden Grove, CA) via EPA 8260 and SM 5310B.

Baseline VOC and TOC

To understand any additional demands on the adsorption capacity of PlumeStop in the soil and groundwater, baseline total VOC and TOC measurements were performed on a sample prepared by mixing site groundwater and soil in a 10:1 by-weight ratio. This ratio is required to provide enough water for analysis while still providing an understanding of any matrix impacts on performance. The sample was allowed to stir for 24 hours, and then the groundwater was sampled and sent for analysis.

Treatability Study Procedure – Phase I

To prepare the samples for this study, groundwater and site soil were chilled to 5°C and then added into the reaction vessels (4L HDPE bottles) at a 10:1 groundwater-to-site soil ratio. To understand the dose-response of a PlumeStop treatment, six different PlumeStop loadings were tested in the study: 1,000 mg/L, 5,000 mg/L, 10,000 mg/L, 15,000 mg/L, 20,000 mg/L, and 25,000 mg/L. These wide-ranging loadings were chosen to encompass the field-scale design dosing (6,000 to 17,000 mg/L), because the baseline concentrations were not known precisely prior to starting the study (no baseline samples were analyzed in order to expedite the study), and because some species were expected to have a low sorption affinity, necessitating higher doses to ensure a response was observed. Additionally, multiple doses were examined to provide the possibility of performing an isotherm analysis on the individual species to further understand the dose-response for individual species within the site-specific matrix. Of the six loadings, duplicate samples were performed on the 5,000 mg/L, 10,000 mg/L, and 20,000 mg/L PlumeStop doses for analytical quality assurance. In order to keep the total volume identical in all samples, PFAS-free, deionized water was added to make up the volume difference from the PlumeStop addition in all samples.

Calcium chloride was added to the samples to destabilize the PlumeStop so that water free of PlumeStop could be sampled and sent for analysis. Without this procedure, PlumeStop would remain suspended in solution during the sampling event, and any PFAS compounds adsorbed on the PlumeStop would be chemically extracted from the PlumeStop during the analytical sample preparation, leading to biased high results. Note that in a field-scale application, PlumeStop will permanently deposit onto soil over time. Calcium chloride was also added to the control samples for consistency.

A blank sample was also prepared and handled in the same manner as the control and treated samples to ensure no PFAS compounds were introduced during the study. The blank sample was prepared in a 4L HDPE bottle and contained only PFAS-free deionized water. A summary of the sample compositions can be found in Table 1.

The reaction vessels were sealed, the contents manually mixed, and the samples stored at room temperature for seven days, which provided enough time for the contaminants to adsorb and the PlumeStop to settle. After seven days, three 250-mL aliquots of the PlumeStop-free groundwater were removed from the reaction vessels and sent to Eurofins TestAmerica for PFAS analysis.

Table 1. Summary of Sample Compositions

	Lab Sample ID	**Sample Treatment ID**	**PlumeStop Conc** (mg/L)	**Mass of GW** (g)	**Mass of soil** (g)	**$CaCl_2 \cdot 2H_2O$** (g)
1	FAY-PS2019-posttreat1-05072019	1,000 mg/L PS	1,000	3,750	375	35
2	FAY-PS2019-posttreat2-05072019	5,000-1 mg/L PS	5,000	3,750	375	35
3	FAY-PS2019-posttreat3-05072019	5,000-2 mg/L PS	5,000	3,750	375	35
4	FAY-PS2019-posttreat4-05072019	10,000-1 mg/L PS	10,000	3,750	375	35
5	FAY-PS2019-posttreat5-05072019	10,000-2 mg/L PS	10,000	3,750	375	35
6	FAY-PS2019-posttreat6-05072019	15,000 mg/L PS	15,000	3,750	375	35
7	FAY-PS2019-posttreat7-05072019	20,000-1 mg/L PS	20,000	3,750	375	35
8	FAY-PS2019-posttreat8-05072019	20,000-2 mg/L PS	20,000	3,750	375	35
9	FAY-PS2019-posttreat9-05072019	25,000 mg/L PS	25,000	3,750	375	35
10	FAY-PS2019-pretreat1-05072019	Control-1	0	3,750	375	35
11	FAY-PS2019-pretreat2-05072019	Control-2	0	3,750	375	35
12	FAY-PS2019-blank-05072019	Blank	0	0	0	0
13	FAY-PS2019-posttreat10-05142019	Second dose 10,000 mg/L PS	10,000	2515	0	15

Test Design is Meant as a Proof of Concept

The specific test was set up to discern the ability of varying doses of PlumeStop to bind the entire range of PFAS species simultaneously in the actual site water. While this approach is cost effective (as it is run in a simple batch test), it provides only an estimate of the hypothetical performance of site groundwater upon contact with the very first portion of a PlumeStop-treated aquifer zone. In actual field conditions, as the site water continues to advect through a PlumeStop-treated zone, the more hydrophobic PFAS species are preferentially sorbed and removed from solution, thereby reducing the competition for binding sites and increasing the sorption efficacy of more soluble PFAS species. Thus, the test performed is potentially

conservative and could underestimate the expected field performance of a PlumeStop-treated aquifer zone. Additionally, this test design does not provide insight as to performance over time. In the field, PlumeStop is often used in a barrier configuration where additional contaminant will flux into the zone. This test only examined the initial response expected.

Treatability Study Procedure – Phase II

In addition to the initial study, a second-phase treatment was conducted on a single sample. The purpose of this sample was to lend better insight into the expected performance of a PlumeStop-treated aquifer zone in the field since the batch test is known to have deficiencies, as described in the paragraph above. To accomplish this, two successive 10,000 mg/L treatment doses of PlumeStop were applied to one sample. PlumeStop-free water (approximately 2L) was removed from one of the 10,000 mg/L samples from the first treatment above, transferred to a new container, and treated with a fresh 10,000 mg/L dose of PlumeStop. A summary of the sample compositions is provided under Table 1. The reaction vessel was sealed, the contents manually mixed, and the sample left at room temperature for seven days. After seven days, three 250-mL groundwater samples were then sent to EuroFins TestAmerica for PFAS-related analysis.

RESULTS AND DISCUSSION

Baseline VOC and TOC Analysis

The results from the VOC and TOC baseline groundwater analysis of a sample prepared in a 10:1 groundwater-to-soil ratio are shown in Table 2. The TOC analysis was non-detect (practical quantification limit, PQL = 3 mg/L), and the total VOCs determined by EPA 8260 were 0.57 μg/L. These results indicate that no significant sources of demand on PlumeStop activated carbon from other species were present in the soil and groundwater.

Table 2. Baseline analysis of site groundwater for Total Organic Carbon and Volatile Organic Compounds

	TOC (SM 5310B), mg/L	Total VOCs (EPA 8260), μg/L
Baseline Groundwater	< 3	0.57

Control and Blank Samples

A summary of all the results from the treatability study can be found in Table A in Appendix A. The results of the blank and control samples were as expected. No PFAS compounds were detected above the reporting limits in the blank sample, indicating that the handling procedures performed during the study returned no source of contamination. The results of the replicate control samples agreed, as no extreme variances were observed in the measured concentration of any PFAS compounds. The average total PFAS concentration in the controls was 60.4 μg/L, with PFO_2HxA, PFMOAA, HFPO-DA, PFO_3OA, and PMPA having the highest concentrations and accounting for over 80% of the contamination. A summary of the compounds detected above the reporting limit in the control samples is shown in Table 3.

Treatability Study: Phase I

The results from the PlumeStop-treated samples are shown in Table 4 along with the average of the control replicates for reference (only the analytes detected in the control are shown for simplicity).

As stated above, this Phase I study, by design, is a low-cost, proof-of-concept method of providing an initial approximation of the ability of different PlumeStop doses to effectively remove the suite of PFAS compounds from solution. Based on the laboratory study, PlumeStop performed very well, rapidly sorbing PFAS contaminants from solution. The lowest treatment dose of PlumeStop (1,000 mg/L) removed 93.5% of the total PFAS from solution, and incremental improvements were observed as the dose was increased. The highest doses of PlumeStop removed over 99% of the total PFAS, with 23 of the 26 detected species removed to non-detect concentrations.

Over 99.8% of HFPO-DA (GenX) was removed with the lowest dose of PlumeStop, and its concentration was reduced to below the reporting limit (4 ng/L) with a dose of 5,000 mg/L PlumeStop. These results suggest that a field application of PlumeStop can effecively remove HFPO-DA from the groundwater. The more soluble PFAS species present (those with the lowest binding affinity for PlumeStop) also showed very good removal, with PFMOAA reduced by 95% from 9.5 µg/L to 0.4 µg/L, perfluorobutanoic acid (PFBA) reduced by 96% (59 ng/L to 3 ng/L), and perfluoroheptanoic acid (PFHpA) reduced by 87% (19 ng/L to 2.4 ng/L). It is not clear why PFHpA was detected just above the reporting limit in the higher PlumeStop doses when it had been non-detect with the mid-range doses.

Note on the Ability to Perform Isotherm Analysis:

As described in the treatability procedure above, a range of PlumeStop doses was tested with the original goal of determining the dose response of PlumeStop for the individual species within the matrix by conducting an isotherm analysis of the individual species. However, based on the observed results, where over 90% of the total PFAS were removed with the lowest dose and all but three species were removed at the second lowest dose, an isotherm analysis could not be conducted as anticipated. This is because an isotherm analysis requires a measurable concentration to remain in solution in order to calculate the results. While the isotherm analysis could not be conducted, the results still provide REGENESIS with a good understanding of the ability of PlumeStop to remove the target compounds.

Treatability Study: Phase II

As discussed above, the second phase of the study was conducted to better mimic the results that may be expected in a field application of PlumeStop where stratification of the PFAS species will naturally occur as the site water advects through a PlumeStop-treated zone. This stratification will result in the preferential sorption of the more hydrophobic PFAS species and their removal from solution first, resulting in less competition for the more soluble PFAS species as they move downgradient to virgin carbon binding sites. This test was accomplished by splitting the 20,000 mg/L PlumeStop dose into two successive 10,000 mg/L treatments. The results of this phase of the study are summarized in Table 5 and compared to the 20,000 mg/L treatment from Phase I.

As can be seen, the total PFAS removal after the two successive 10,000 mg/L treatments was improved over the single 20,000 mg/L PlumeStop treatment, with 99.6% removed and only two species detected in the successive treatments compared to 99.3% and four species detected when the same net dose was applied all at once. Note that this observed improvement with two successive 10,000 mg/L treatments over the single 20,000 mg/L treatment is conservative because the reporting limits were lower for the 10,000 mg/L PS Second Treatment than for the 20,000 mg/L PS Treatment (due to analysis at different times). This means that the total PFAS concentration measured in the 20,000 mg/L PS Treatment would have been higher if the detection limits were lower. For example, this is exemplified by PMPA where it was not detected in the 20,000 mg/L PS Treatment because the reporting limit was over 10x higher than the value measured in 10,000 mg/L PS Second Treatment. These results confirm the notion that better results can be expected for a barrier-type application of PlumeStop than from the Phase I batch study.

SUMMARY

This treatability study examined the ability of various PlumeStop doses (1,000 mg/L to 25,000 mg/L) to remove HFPO-DA (GenX), PFMOAA, and other PFAS compounds from the perched groundwater zone at the subject site via adsorption to colloidal activated carbon particles. The key findings from the proof of concept test are as follows:

- PlumeStop successfully removed HFPO-DA from the groundwater and reduced its concentration to below reporting limits with a dose of only 5,000 mg/L.
- The range of PlumeStop doses tested removed between 93.5% and 99.6% of the total PFAS, indicating that a PlumeStop treatment can significantly remove these compounds from the groundwater matrix, thereby reducing the contaminant flux through the site.
- 24 of the 26 detected PFAS species were removed to non-detect concentrations. Only the compounds that are known to have lower affinity for activated carbon remained in solution.
- As much as 95% of PFMOAA was removed from the groundwater in this study.
- Successive treatments by two 10,000 mg/L doses of PlumeStop yielded better results than a single 20,000 mg/L treatment, suggesting that observed field results may be better than the results observed in this study, assuming similar contaminant concentrations.
- The lowest PlumeStop dose tested removed over 90% of the total PFAS compounds, this result suggests an expected design advantage of improved treatment longevity when PlumeStop is used in a barrier formation.

These results confirm the ability of PlumeStop to adsorb the contaminants and demonstrate that no significant interfering species that limits the performance of PlumeStop is present in the soil and groundwater matrix. Therefore PlumeStop® is capable of quickly removing and retaining multiple contaminants from the aqueous phase at the site. This information, in combination with other site-specific parameters, can be used to estimate the performance of PlumeStop in various potential treatment areas of the site. Actual field dosing should be developed for each scenario in combination with estimates of the contaminant concentration, flux, and treatment goals.

Table 3. Summary of the measured concentrations in the replicate control samples. Only the species detected above the reporting limit are shown for simplicity. All concentrations are in µg/L. For the full results, see Appendix A.

Analyte	Control-1	Control- 2
Byproduct 1	0.057	0.074
Byproduct 2	0.69	0.89
Byproduct 4	0.55	0.71
Byproduct 5	1.20	1.40
EVE Acid	0.027	0.026
HFPO-DA	5.50	4.90
Hydro-EVE Acid	0.10	0.11
NVHOS	1.10	1.40
PEPA	2.40	2.50
Perfluorobutanesulfonic acid (PFBS)	0.0025	0.0023
Perfluorobutanoic acid (PFBA)	0.0610	0.0570
Perfluorodecanoic acid (PFDA)	<0.0020	0.0020
Perfluoroheptanoic acid (PFHpA)	0.020	0.018
Perfluorohexanesulfonic acid (PFHxS)	0.0035	0.0037
Perfluorohexanoic acid (PFHxA)	0.013	0.012
Perfluorononanoic acid (PFNA)	0.0047	0.0047
Perfluorooctanesulfonic acid (PFOS)	0.012	0.011
Perfluorooctanoic acid (PFOA)	0.019	0.017
Perfluoropentanoic acid (PFPeA)	0.077	0.071
PFMOAA	9.50	9.50
PFO2HxA	24.00	27.00
PFO3OA	5.50	6.40
PFO4DA	1.40	1.70
PFO5DA	0.40	0.44
PMPA	4.50	4.70
R-EVE	0.24	0.24
Total PFAS	57.37	62.20
Control Avg	59.79	

Table 4. Summary of Phase I Treatability Results. All concentrations are reported in µg/L.

Analyte ↓ / Sample Treatment ID: →	Control Avg	1,000 mg/L PS	5,000-1 mg/L PS	5,000-2 mg/L PS	10,000-1 mg/L PS	10,000-2 mg/L PS	15,000 mg/L PS	20,000-1 mg/L PS	20,000-2 mg/L PS	25,000 mg/L PS
Byproduct 1	**0.066**	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027
Byproduct 2	**0.790**	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030
Byproduct 4	**0.630**	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16
Byproduct 5	**1.300**	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058
EVE Acid	**0.027**	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024
HFPO-DA	**5.200**	**0.0073**	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Hydro-EVE Acid	**0.104**	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028
NVHOS	**1.250**	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054
PEPA	**2.450**	<0.047	<0.047	<0.047	<0.047	<0.047	<0.047	<0.047	<0.047	<0.047
Perfluorobutanesulfonic acid (PFBS)	**0.002**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorobutanoic acid (PFBA)	**0.059**	**0.0140**	**0.0057**	**0.0055**	**0.0033**	**0.0045**	**0.0029**	**0.0021**	**0.0025**	**0.0026**
Perfluorodecanoic acid (PFDA)	**0.002**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoroheptanoic acid (PFHpA)	**0.019**	**0.0041**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	**0.0033**	**0.0024**
Perfluorohexanesulfonic acid (PFHxS)	**0.004**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorohexanoic acid (PFHxA)	**0.013**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorononanoic acid (PFNA)	**0.005**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorooctanesulfonic acid (PFOS)	**0.012**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorooctanoic acid (PFOA)	**0.018**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoropentanoic acid (PFPeA)	**0.074**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
PFMOAA	**9.500**	**2.50**	**0.92**	**1.80**	**0.77**	**0.77**	**0.59**	**0.35**	**0.45**	**0.44**
PFO2HxA	**25.50**	**0.11**	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081
PFO3OA	**5.950**	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058
PFO4DA	**1.550**	<0.079	<0.079	<0.079	<0.079	<0.079	<0.079	<0.079	<0.079	<0.079
PFO5DA	**0.420**	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034
PMPA	**4.600**	**1.30**	**0.67**	**0.70**	**0.61**	<0.57	**0.57**	<0.57	<0.57	<0.57
R-EVE	**0.240**	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070
Total PFAS	**59.79**	**3.94**	**1.60**	**2.51**	**1.38**	**0.77**	**1.16**	**0.35**	**0.46**	**0.45**
Avg of Replicates		**3.94**	**2.05**		**1.08**		**1.16**	**0.40**		**0.45**
% Removal vs control		**93.5%**	**96.6%**		**98.2%**		**98.1%**	**99.3%**		**99.3%**

Table 5. Summary of Phase II Treatability Results. All concentrations are reported in μg/L.

Analyte ↓ / Sample → Treatment ID:	Control Avg	10,000 mg/L PS – First Treatment	10,000 mg/L PS – Second Treatment[1]	20,000 mg/L PS, Avg from Phase I[1]
Byproduct 1	**0.066**	<0.027	<0.0020	<0.027
Byproduct 2	**0.790**	<0.030	<0.0020	<0.030
Byproduct 4	**0.630**	<0.16	<0.0020	<0.16
Byproduct 5	**1.300**	<0.058	<0.0020	<0.058
EVE Acid	**0.027**	<0.024	<0.0020	<0.024
HFPO-DA	**5.200**	<0.0040	<0.0040	<0.0040
Hydro-EVE Acid	**0.104**	<0.028	<0.0020	<0.028
NVHOS	**1.250**	<0.054	<0.0020	<0.054
PEPA	**2.450**	<0.047	<0.020	<0.047
Perfluorobutanesulfonic acid (PFBS)	**0.002**	<0.0020	<0.0020	<0.0020
Perfluorobutanoic acid (PFBA)	**0.059**	**0.0033**	<0.0020	**0.0023**
Perfluorodecanoic acid (PFDA)	**0.002**	<0.0020	<0.0020	<0.0020
Perfluoroheptanoic acid (PFHpA)	**0.019**	<0.0020	<0.0020	**0.0027**
Perfluorohexanesulfonic acid (PFHxS)	**0.004**	<0.0020	<0.0020	<0.0020
Perfluorohexanoic acid (PFHxA)	**0.013**	<0.0020	<0.0020	<0.0020
Perfluorononanoic acid (PFNA)	**0.005**	<0.0020	<0.0020	<0.0020
Perfluorooctanesulfonic acid (PFOS)	**0.012**	<0.0020	<0.0020	<0.0020
Perfluorooctanoic acid (PFOA)	**0.018**	<0.0020	<0.0020	<0.0020
Perfluoropentanoic acid (PFPeA)	**0.074**	<0.0020	<0.0020	<0.0020
PFMOAA	**9.500**	**0.77**	**0.22**	**0.40**
PFO_2HxA	**25.50**	<0.081	<0.0020	<0.081
PFO_3OA	**5.950**	<0.058	<0.0020	<0.058
PFO_4DA	**1.550**	<0.079	<0.0020	<0.079
PFO_5DA	**0.420**	<0.034	<0.0020	<0.034
PMPA	**4.600**	**0.61**	**0.016**	<0.57
R-EVE	**0.240**	<0.070	<0.0020	<0.070
Total PFAS	**59.79**	**1.38**	**0.24**	**0.41**
% Removal vs control		**97.7%**	**99.6%**	**99.3%**

[1]Note: Reporting limits were lower for the 10,000 mg/L PS Second Treatment than for the 20,000 mg/L PS Treatment because they were analyzed at different times. Therefore the observed improvement with two successive 10,000 mg/L treatments over the single 20,000 mg/L treatment is conservative as a higher Total PFAS concentration would have been measured in the 20,000 mg/L PS Treatment if the detection limits were lower. This is best exemplified by PMPA where it was not detected in the 20,000 mg/L PS Treatment because the reporting limit was over 10x higher than the value measured in 10,000 mg/L PS Second Treatment.

Appendix A

Table A. Summary of all analytical data

					PlumeStop dose (mg/L)									
Analyte	**Units**	**Blank**	**Control-1**	**Control-2**	**1,000 mg/L PS**	**5,000-1 mg/L PS**	**5,000-2 mg/L PS**	**10,000-1 mg/L PS**	**10,000-2 mg/L PS**	**15,000 mg/L PS**	**20,000-1 mg/L PS**	**20,000-2 mg/L PS**	**25,000 mg/L PS**	**Second dose 10,000 mg/L PS**
10:2 FTS	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
4:2 FTS	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
6:2 FTS	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
8:2 FTS	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
ADONA	ug/L	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021
Byproduct 1	ug/L	<0.027	**0.057**	**0.074**	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.0020
Byproduct 2	ug/L	<0.030	**0.69**	**0.89**	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.030	<0.0020
Byproduct 4	ug/L	<0.16	**0.55**	**0.71**	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.16	<0.0020
Byproduct 5	ug/L	<0.058	**1.20**	**1.40**	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.0020
Byproduct 6	ug/L	<0.015	<0.015	0.02	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015	<0.015
EVE Acid	ug/L	<0.024	**0.027**	**0.026**	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.024	<0.0020
F-53B Major	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
F-53B Minor	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
HFPO-DA	ug/L	<0.0040	**5.50**	**4.90**	**0.0073**	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040	<0.0040
Hydro-EVE Acid	ug/L	<0.028	**0.10**	**0.11**	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.028	<0.0020
MeFOSA	ug/L	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.035	<0.0020
M-MeFOSE-M	ug/L	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.11	<0.0020
NaDONA	ug/L	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021	<0.0021
NEtFOSAM	ug/L	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.037	<0.0020
N-EtFOSE-M	ug/L	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.0020
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ug/L	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
NVHOS	ug/L	<0.054	**1.10**	**1.40**	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.054	<0.0020
PEPA	ug/L	<0.047	**2.40**	**2.50**	<0.047	<0.047	<0.047	<0.047	<0.047	<0.047	<0.047	<0.047	<0.047	<0.020
Perfluorobutanesulfonic acid (PFBS)	ug/L	<0.0020	**0.0025**	**0.0023**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorobutanoic acid (PFBA)	ug/L	<0.0020	**0.0610**	**0.0570**	**0.0140**	**0.0057**	**0.0055**	**0.0033**	**0.0045**	**0.0029**	**0.0021**	**0.0025**	**0.0026**	<0.0020
Perfluorodecanesulfonic acid (PFDS)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorodecanoic acid (PFDA)	ug/L	<0.0020	<0.0020	**0.0020**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorododecanesulfonic acid (PFDoS)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorododecanoic acid (PFDoA)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoroheptanesulfonic Acid (PFHpS)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoroheptanoic acid (PFHpA)	ug/L	<0.0020	**0.020**	**0.018**	**0.0041**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	**0.0033**	**0.0024**	<0.0020
Perfluorohexanesulfonic acid (PFHxS)	ug/L	<0.0020	**0.0035**	**0.0037**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorohexanoic acid (PFHxA)	ug/L	<0.0020	**0.013**	**0.012**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoro-n-hexadecanoic acid (PFHxDA)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoro-n-octadecanoic acid (PFODA)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorononanesulfonic acid (PFNS)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorononanoic acid (PFNA)	ug/L	<0.0020	**0.0047**	**0.0047**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorooctanesulfonamide (FOSA)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorooctanesulfonic acid (PFOS)	ug/L	<0.0020	**0.012**	**0.011**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorooctanoic acid (PFOA)	ug/L	<0.0020	**0.019**	**0.017**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoropentanesulfonic acid (PFPeS)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoropentanoic acid (PFPeA)	ug/L	<0.0020	**0.077**	**0.071**	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorotetradecanoic acid (PFTeA)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluorotridecanoic acid (PFTriA)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Perfluoroundecanoic acid (PFUnA)	ug/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
PES	ug/L	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046	<0.046
PFECA B	ug/L	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060	<0.060
PFECA G	ug/L	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041	<0.041
PFMOAA	ug/L	<0.21	**9.50**	**9.50**	**2.50**	**0.92**	**1.80**	**0.77**	**0.77**	**0.59**	**0.35**	**0.45**	**0.44**	**0.22**
PFO2HxA	ug/L	<0.081	**24.00**	**27.00**	**0.11**	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	<0.081	<0.0020
PFO3OA	ug/L	<0.058	**5.50**	**6.40**	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.058	<0.0020
PFO4DA	ug/L	<0.079	**1.40**	**1.70**	<0.079	<0.079	<0.079	<0.079	<0.079	<0.079	<0.079	<0.079	<0.079	<0.0020
PFO5DA	ug/L	<0.034	**0.40**	**0.44**	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.034	<0.0020
PMPA	ug/L	<0.57	**4.50**	**4.70**	**1.30**	**0.67**	**0.70**	**0.61**	<0.57	**0.57**	<0.57	<0.57	<0.57	**0.016**
R-EVE	ug/L	<0.070	**0.24**	**0.24**	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.0020
Total PFAS	ug/L	ND	57.37	62.20	3.94	1.60	2.51	1.38	0.77	1.16	0.35	0.46	0.45	0.24

APPENDIX C
REGENESIS APPLICATION SUMMARY REPORT

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June 14, 2019

REGENESIS Proposal No. DaP62230

The Chemours Company FC, LLC
ATTN: Sebastian Bahr
1007 Market Street, D-3084
Wilmington, DE 19899

SUBJECT: Summary Report for the Perched Zone Pilot Study at the Fayetteville Works Site

Sebastian,

REGENESIS Remediation Services (RRS) has recently completed the first of two planned pilot studies of *in situ* injections utilizing PlumeStop® Liquid Activated Carbon™ (PlumeStop) for the treatment of the contaminants perfluoro-2-methoxyacetic acid (PFMOAA) as well as GenX and its derivatives including hexafluoropropylene oxide dimer acid (HFPO-DA) at the Fayetteville Works Site (Site) located at 22828 NC-87 in Fayetteville, North Carolina. In this Phase 1 pilot study, a "proof of concept" barrier was installed in a perched aquifer (Perched Zone Area) at the Site. During Phase I, further site-specific data were gathered in order to optimize the sorption-based treatment designs for the perched zone, the surficial aquifer barrier of Phase II, and future large-scale applications.

RRS mobilized product, injection equipment, and personnel to the Site to begin work over nine days on May 7th through May 17th, 2019. RRS staffed the project with experienced personnel who ensured a safe, successful injection application. General components of the pilot study included the installation of temporary monitoring wells, collection and analyses of pre- and post-application soil borings, design verification testing, and application of PlumeStop at a total of 48 discrete injection locations. Throughout the application, water levels and reagent concentrations in monitoring wells were measured to ascertain the influence of remedial injections. After the application, RRS flushed the permanent monitoring wells that were influenced with clean water to minimize particulate buildup resulting from injections.

For complete details of the study, please review the attached application summary page, injection layout, soil boring logs, photo log, injection logs, and water level monitoring log.

RRS appreciates the opportunity to work at the Site with The Chemours Company. RRS will be available to interpret the field data as it is collected and answer any questions. If you need additional information regarding the application process or attached documents, please contact Steve Barnes at 574.349.0650 or Tyler Harris at 404.809.8807.

Sincerely,

Steve Barnes
RRS Operations Manager
REGENESIS Remediation Services

Tyler Harris
Field Project Manager
REGENESIS Remediation Solutions

cc: Chad Northington (CNorthington@Regenesis.com); Doug Davis (DDavis@Regenesis.com); Dave Peterson (DPeterson@Regenesis.com); Scott Wilson (SWilson@Regenesis.com); Tony Boever (TBoever@Regenesis.com)

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Perched Zone Pilot Study Summary Page

OVERVIEW

Client: The Chemours Company
Client PM: Sebastian Bahr
RRS Project Manager: Steve Barnes
RRS Project Supervisor: Tyler Harris

Site Address: 22828 NC-87, Fayetteville, NC 28306
Project Name: Fayetteville Works Site
Perched Zone Pilot Study
Project Dates: 5/7/2019-5/17/2019

TREATMENT TECHNOLOGY

The treatment approach for the Perched Zone Pilot Study at the Fayetteville Works Site followed *in situ* sorption using the REGENESIS product PlumeStop to partition PFMOAA and HFPO-DA contamination in perched groundwater out of the dissolved phase. PlumeStop is a colloid of micro-milled activated carbon with a particle size of 1-2 µm suspended in water using unique organic polymer chemistry. After initial injections, the unique chemistry allows for distribution of PlumeStop through soil pore throats and deposition onto soil surfaces. Once deposition of the colloidal activated carbon onto soil occurs, PlumeStop effectively treats contaminated groundwater by providing a high surface area matrix for sorption of contaminants. PlumeStop is effective at removing a wide range of contaminants from groundwater, including refractory compounds such as the fluoroethers at the Site.

RRS conducted design verification testing (DVT) activities as outlined in the proposal dated May 3rd, 2019, with the results supplementing the conceptual design and installation of the Perched Zone Area barrier for Phase 1 of the pilot studies. Design modifications were necessitated from both the DVT work and review of hydrogeologic information submitted by Parsons immediately prior to mobilization.

PHASE I PILOT STUDY AREA

The Perched Zone Area of Phase I is located near the polyvinyl fluoride resin manufacturing unit at the Fayetteville Works manufacturing site. Situated near an outfall channel, the area itself is relatively flat and is adjacent to a moderately steep ravine to the west-southwest. The Phase I pilot test was conducted to assess PlumeStop treatment near the southwestern extent of the perched zone which is a relatively thin saturated, sandy zone atop a clay unit starting at approximately 16 to 22 feet below ground surface (bgs). The saturated thickness of the perched zone varies from 5 to 9 feet, approximately, in the pilot test area. The area previously contained a stand of coniferous trees, which was cleared prior to the arrival of RRS. The area also includes a series of permanent monitoring wells located both within and outside the surficial extent of the injection barrier.

Prior to mobilization, Parsons completed a hydrogeologic assessment in this area to locate the perched zone. As part of this assessment, a number of monitoring wells were installed to be used as performance

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monitoring wells for the PlumeStop application. Hydrogeologic information was reviewed immediately prior to mobilization. Based on groundwater elevations collected by Parsons, REGENESIS constructed a groundwater flow map showing the general groundwater flow direction to be rotated approximately 45 degrees from the longest side of the proposed barrier. Following this and taking into consideration the fixed locations of the performance monitoring wells, REGENESIS established an injection pattern as shown in *Figure 1* and Appendix A: Injection Layout. Injection points (IP) were placed in three rows, with Rows 1 and 2 numbered 1-32 and in the upgradient portion of the barrier and Row 3 numbered 33-48 and located in the downgradient side of the barrier.

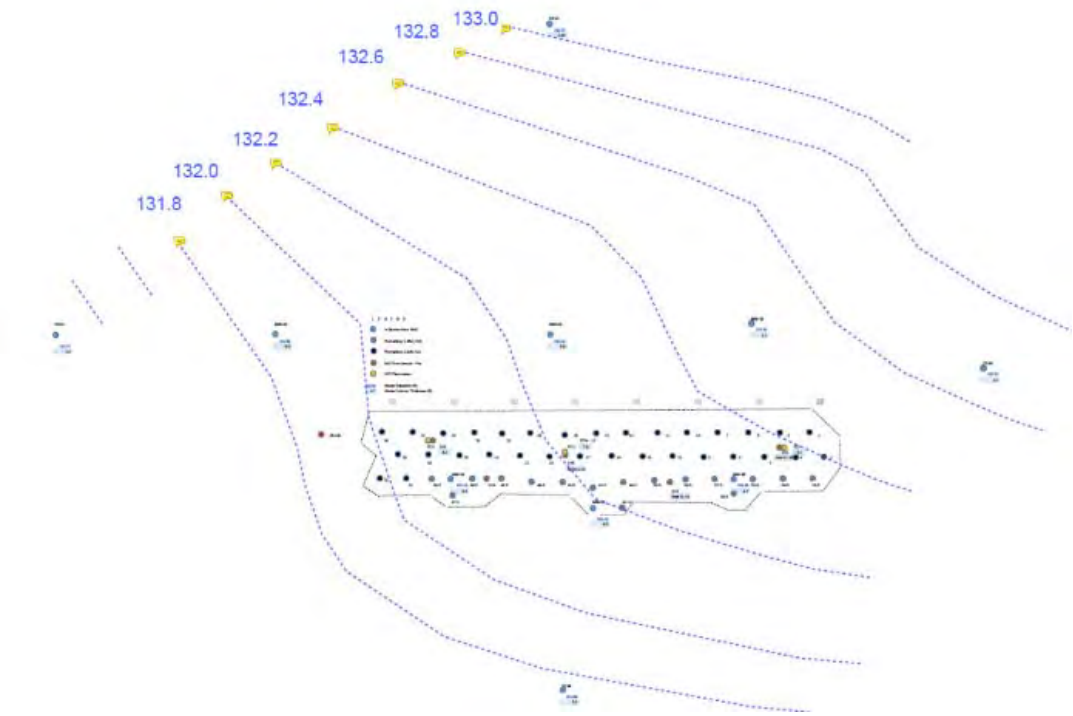

Figure 1. Potentiometric groundwater flow map for the Phase 1 Pilot Test Area. (Contour intervals at 0.2 feet).

DESIGN VERIFICATION TESTING

Prior to and during the pilot-scale PlumeStop barrier application, a DVT was conducted to refine the Perched Zone treatment design. A total of 11 soil borings, five pre-application and six post-application cores were collected throughout the study. Soil borings were retrieved in 5-foot sections using a 2.25-inch dual-tube sampler and ranged in total collection depths of 20 to 23 feet below ground surface (ft bgs). Cores were logged in detail from eight feet below ground surface to the end of the boring (Appendix B: Soil Boring Logs). Special emphasis was placed on measuring the vertical saturated thickness and observing the perched zone sand/cay contact across the length of the barrier, which established the target vertical treatment positionally in the barrier. Soil grain size, which was used to predict hydraulic conductivity and potential radius of influence (ROI) of the treatment, was observed through soil settling analysis, whereby soil samples collected in 1-foot increments were placed in glass vials with water, mixed, and allowed to settle by particle size into distinct layers (*Figure 2*; Appendix C: Photo Log).

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Figure 2. DV-1 soil settling tubes from 10 ft bgs (far left) to 20 ft bgs (far right) depicting the abrupt change from light tan sand (10-13 ft bgs) to light gray silty sand (13-17 ft bgs) to orange-brown clay beginning at 16.3 ft bgs. Complete boring log located in Appendix B: Soil Boring Logs.

The lithology of the perched zone was predominantly sand and silty sand with varying degrees of fines. Two fine-grained (silt/clay) layers were noted in all soil borings. A thin fine-grained layer, two to eight inches thick was observed approximately between 11 and 13 ft bgs. The aquiclude of the perched aquifer was determined to begin at between 16 and 21 ft bgs, increasing in depth from the SSE to NNW. Water was encountered beginning at 11 to 12 ft bgs and extended into the confining layer. The saturated thickness in the western portion of the barrier was greater than what was expected based on the review of available data including previous boring logs. The increase in the total vertical treatment increased the treatment volume by approximately 20 percent from the original design calculations, and as a result, REGENESIS expedited the shipment of 2,000 lbs of additional PlumeStop to compensate for the increase.

The first of the pre-application borings (DVs 1 & 2) were collected in the eastern side of the barrier where the saturated thickness was expected to be smallest. Prior to injections, three temporary piezometers (PZs 1-3) were installed and used as an ROI indicator and to improve the spatial sampling resolution of water level measurements. To observe the effect on water levels in nearby wells, injections began with a single-point injection test at IP-1. During the test, wells were observed for changes in depth to water (DTW) and arrival of the PlumeStop reagent. Additionally, pressures and flowrates were varied to identify any lithological limitations of injections (Appendix D: Injection Log – Table 1, IP-1). During the application, soil borings were advanced and soil color observed for the vertical distribution of the PlumeStop reagent.

On visual inspection of the post-application borings, the vertical distribution of the PlumeStop solution was demonstrated by gray to black coloration of the sediments (Appendix C: Photo 7). Semi-quantitative results of PlumeStop distribution were obtained from colorimetric analyses of sediments using the Munsell color system in which clear color changes were measured from nine feet below ground surface to the beginning of the confining layer. Prominent PlumeStop bands, generally 2 to 12 inches thick were observed at various depths in the cores. RRS assessed vertical distribution of PlumeStop utilizing several injection delivery methods (discussed below).

APPLICATION

A total of 48 discrete locations were utilized to deliver the remedial solution of PlumeStop to the subsurface of the treatment area. Using direct-push technology (DPT), PlumeStop was injected through 2.25-inch tooling. Injection points were placed in a staggered grid-like pattern of three rows with an average spacing of five feet between points and rows. Treatment depths and intervals varied based on the saturated thickness of the perched aquifer. For all locations, the bottom of the TTZ was located at the

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perched water table-aquiclude interface. As such, bottom treatment depths increased from 17 to 22 ft bgs along the barrier from the SSE to the NNW while the treatment interval increased from six to nine feet.

Initial injections were completed following a bottom-up approach using 3-foot retractable screens to deliver the PlumeStop reagent to the subsurface in discrete intervals of 1-3 feet (i.e., an injection from 22-20 ft bgs was completed before lifting tooling three feet to inject in the 20-17 ft bgs interval). In addition to retractable screens, injections were attempted using pressure-activated probes which discharge fluid in a narrow band from four injection ports. These probes were utilized in 6-inch intervals following bottom-up and top-down approaches. Lastly, 3-foot retractable screens were attempted in small, 1-foot intervals following top-down and bottom-up approaches. Based on visual inspection of PlumeStop distribution in the post-application cores corresponding to the aforementioned methods, 3-foot screens following a bottom-up approach of 3-foot intervals was determined to be the best delivery method.

With the exception of high-pressure tooling (e.g., pressure-activated probes), injection pressures were relatively low, remaining under 50 pounds per square inch (psi). The median pressure for all points, regardless of tooling, was 18 psi. Aside from a pressure of 80 psi in the bottom injection interval at IP-9, pressures above 50 psi were observed at locations where pressure-activated probes were used as well as where retractable screens following a top-down approach were used, which resulted in clogged screens caused by back-pressure. Back-pressure was noted in some areas and appeared to increase as the injection volume to a particular area increased.

To test injection limitations, flowrates were varied from 0.50 to 10.05 gallons per minute (gpm) for an overall median flowrate of 4.31 gpm. Based on the lithology and injection tooling diameter, flowrates appeared to be limited to a maximum of 5.50 gpm, whereby higher rates resulted in surfacing from around the active boring. Surfacing was otherwise uncommon and successfully prevented or mitigated by decreasing flowrates to 4.0 gpm or lower; lower rates were required as the application neared completion.

REGENESIS' design for the Perched Zone Area included two primary design types, termed "Rows 1 & 2" and "Row 3", with a total of five unique per point target volumes injected at three different concentrations (Table 1). For Rows 1 & 2 (IPs 1-32), PlumeStop was injected at 30,000 ppm, whereas IPs 33-44 of Row 3 received a solution of 13,500 ppm, and IPs 45-48 of Row 3 was injected at 10,541 ppm. During injections, all nearby monitoring wells were monitored for water table fluctuations and the presence of PlumeStop (Table 2; Appendix E: Water Level Measurements). Bailed samples were semi-quantitatively measured colorimetrically, with the upper limit of PlumeStop concentrations in MWs 34-36 and PZs 1-3 ranging from 3,000 to 30,000 ppm. To prevent particulate buildup in affected wells, MWs 34-36 were flushed with clean water after injections were completed. The temporary piezometers were removed and abandoned with bentonite.

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TREATMENT AREA SUMMARY

ROWS 1 & 2

9,200 pounds of PlumeStop were mixed with hydrant water and diluted to a 30,000 ppm solution. A total of 7,351 gallons of the PlumeStop solution was injected.

Application Method: 2.25-inch direct-push tooling following top-down and bottom-up approaches.
Injection Tooling: 3-foot retractable screens and pressure-activated probes.
Injection Depths: 22-10 ft bgs – varied by injection point based on saturated thickness; *see Appendix D: Injection Logs, Table 1 for details.*
Number of Injection Points: 32
Deviations from Proposal:

1. Injection volume for IP-12 applied in 18-15 ft bgs interval due to volume calculation error.
2. Volume of IP-31 and IP-32 combined from 22-16 ft bgs at IP-32 due to surfacing-related abandonment of IP-31 resulting from alternate delivery method; separate contingency point not utilized due to the proximity of potential locations to IPs 31 and 32.

Please see Table 1 of Appendix D for details on injection flowrates and pressures observed.

ROW 3

12,800 pounds of PlumeStop were mixed with hydrant water and diluted to 13,500 ppm (IPs 33-44) and 10,541 ppm (IPs 45-48) solutions. A total of 4,867 gallons of the PlumeStop solution was injected.

Application Method: Direct-push injection following bottom-up approach
Injection Tooling: 3-foot retractable screens
Injection Depth: 22-11 ft bgs – varied by injection point based on saturated thickness; *see Appendix D: Injection Logs, Table 2 for details*.
Number of Injection Points: 16
Deviations from Proposal: None

Please see Table 2 of Appendix D for details on injection flowrates and pressures observed.

SUMMARY

For this initial phase pilot test, design verification testing and installation of a PlumeStop barrier were completed in the Perched Zone at the Fayetteville Works Site. The sorption-based technology of PlumeStop was implemented in the REGENESIS design to treat the target contaminants PFMOAA and HFPO-DA in groundwater of a perched aquifer located adjacent to the southern boundary of the Fayetteville Works manufacturing site in Fayetteville, North Carolina. The *in situ* application of PlumeStop at a total of 48 locations created a barrier 70 feet in length. A total of 22,000 lbs of PlumeStop was injected via direct-push technology for a total application volume of 12,218 gallons.

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Table 1: Treatment design details for the Perched Zone Pilot Study Area.

Design Name	Injection Point Number	TTZ Thickness (vertical feet)	Injection Concentration (ppm)	Target per Point Volume (gal)	Actual per Point Volume (gal) - mean
Rows 1 & 2	1-16	6	30,000	188	183 ± 8
	17-22	8	30,000	250	240 ± 38
	23-32	9	30,000	281	300 ± 26
Row 3	33-39	6	13,500	284	285 ± 16
	40-44	8	13,500	284	281 ± 22
	45-48	9	10,541	364	366 ± 21

Table 2: Depth to water and PlumeStop concentrations measured at the six primary wells during injections.

Monitoring Well	Well Type	|Δ DTW| (absolute feet)	Max PlumeStop Concentration (ppm)
MW-34	Permanent	2.00	9,550
MW-35		1.35	29,250
MW-36		5.74	30,050
PZ-1	Temporary	1.98	3,050
PZ-2		1.56	21,550
PZ-3		1.24	21,050

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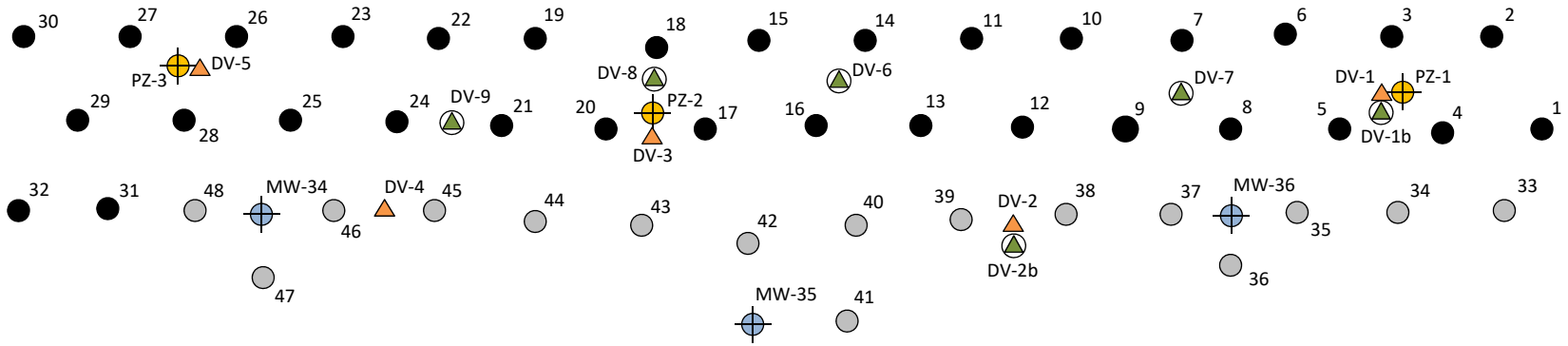
APPENDIX A – Injection Layout



PLUME STOP Liquid Activated Carbon	**Prepared By:** *Tony Boever*	**Injection Layout** **Perched Zone Pilot Study Area** **Fayetteville Works Site** **Fayetteville, North Carolina**
	Date Prepared: *May 2019*	REGENESIS REMEDIATION SERVICES Technology-Based Solutions for the Environment

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APPENDIX B – Soil Boring Logs:

Pre-application cores: DVs 1, 2, 3, 4, 5

Post-application cores: DVs 1b, 2b, 6, 7, 8, 9

Design Verification, Perched Zone Pilot Study - Fayetteville Works Site - Fayetteville, NC
5/8/2019
Boring DV-1

Depth	Time	Physical				Grain Size Info.					Moisture			Contact		Soil Classification	Comments
(ft.)	Time	Recovery	Penetrometer	Pre-app Munsell	Post-app Munsell (DV-1b)	Fines%	Sand%	Fine Sand	Med Sand	Coarse S	Dry	Moist	Wet	Sharp	Gradation	Name	
0-8	St-9:30		--	--	-	--	--	--	--	--	X			--	--	--	Silt Loam to 1.2 ft, then sandy silt to 8 ft.
8		100	2.25	--	-	10	90	X			X					Sand, some silt	
9		100	<0.5	--	-	60	40	X			X					Silt and Sand	
10		100	<0.5	--	GLEY 1 4/N	40	60	X			X					Silt and Sand	
11		100	1.5	10YR 7/2	2.5Y 6/2	20	80	X					X			Silty Sand	Silt Zone 10.8 - 11.1, wet at ~11.2
12		100	<0.5	10YR 7/1	GLEY 1 2.5/N	65	35	X					X			Sandy Silt	
13		100	0.5	10YR 7/1	GLEY 1 2.5/N	55	45	X					X			Silt and Sand	
14		100	<0.5	10YR 7/1	2.5Y 6/1	25	75	X					X			Silty Sand	
15		100	<0.5	10YR 7/1	5Y 6/1	35	65	X	X				X			Silty Sand	Sand Coarsens b/t 15-16 ft- Medium
16		100	<0.5	10YR 7/1	5Y 7/1+	30	70	X					X	X (16.3)		Clay	Clay at 16.3
17		100	0.5	10YR 6/6	-	100						X	X			Clay	
18		100	1	10YR 6/4	-	100						X	X			Clay	
19		50	1	10YR 6/6	-	100						X	X			Clay	No recovery 19.5-20.0'
20		EOB	EOB	--	-	--	--	--	--	--	--	--	--	--	--	--	20' = End of Boring
				End of boring at 20 ft. Abandoned with bentonite.													blue shaded = target wet (perched zone) sand interval

Design Verification, Perched Zone Pilot Study - Fayetteville Works Site - Fayetteville, NC
5/8/2019
Boring DV-1

Depth	Time	Physical				Grain Size Info.					Moisture			Contact		Soil Classification	Comments
(ft.)	Time	Recovery	Penetrometer	Pre-app Munsell	Post-app Color (DV-7)	Fines%	Sand%	Fine Sand	Med Sand	Coarse S	Dry	Moist	Wet	Sharp	Gradation	Name	
0-8	St-9:30		--	--	-	--	--	--	--	--	X			--	--	--	Silt Loam to 1.2 ft, then sandy silt to 8 ft.
8		100	2.25	--	-	10	90	X			X					Sand, some silt	
9		100	<0.5	--	GLEY 1 4/N	60	40	X			X					Silt and Sand	
10		100	<0.5	--	2.5Y 5/2	40	60	X			X					Silt and Sand	
11		100	1.5	10YR 7/2	2.5Y 5/1	20	80	X					X			Silty Sand	Silt Zone 10.8 - 11.1, wet at ~11.2
12		100	<0.5	10YR 7/1	2.5Y 7/2	65	35	X					X			Sandy Silt	
13		100	0.5	10YR 7/1	2.5Y 6/1	55	45	X					X			Silt and Sand	
14		100	<0.5	10YR 7/1	GLEY 1 2.5Y/N	25	75	X					X			Silty Sand	
15		100	<0.5	10YR 7/1	GLEY 2 3/5PB	35	65	X	X				X			Silty Sand	Sand Coarsens b/t 15-16 ft- Medium
16		100	<0.5	10YR 7/1	2.5Y 7/1	30	70	X					X	X (16.3)		Clay	Clay at 16.3
17		100	0.5	10YR 6/6	GLEY 2 3/5PB	100						X	X			Clay	
18		100	1	10YR 6/4	GLEY 1 5/N	100						X	X			Clay	
19		50	1	10YR 6/6	GLEY 1 2.5/10Y	100						X	X			Clay	No recovery 19.5-20.0'
20		EOB	EOB	--	-	--	--	--	--	--	--	--	--	--	--	--	20' = End of Boring
				End of boring at 20 ft. Abandoned with bentonite.													blue shaded = target wet (perched zone) sand interval

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Design Verification, Perched Zone Pilot Study - Fayetteville Works Site - Fayetteville, NC
5/8/2019
Boring DV-2

Depth	Time	Physical				Grain Size Info.					Moisture			Contact		Soil Classification	Comments
(ft.)	Time	Recovery	Penetrometer	Pre-app Munsell	Post-app Munsell (DV-2b)	Fines%	Sand%	Fine Sand	Med Sand	Coarse S	Dry	Moist	Wet	Sharp	Gradation	Name	
0-10	St-14:00		--	--	-	--	--	--	--	--	X			--	--	--	Silt Loam to 1.2 ft, then sandy silt to 10 ft. No Recovery 2.5 - 5' and 9-10'
8		50	0.5	--	-	--	--	--	--	--	X					Sandy Silt	
9		0	--	--	GLEY 1 4/N	--	--	--	--	--	--					No Recovery	
10		100	2.75	10YR 6/2	2.5Y 5/1	75	25	X			X					Sandy Silt	Sandy Silt
11		100	1.5	10YR 6/1	GLEY 1 5/N	75	25	X			X					Sandy Silt	
12		100	2	10YR 7/1	2.5Y 6/2	80	20	X				X	X			Sandy Silt	Becoming moist, then wet starting at ~12 ft
13		100	<0.5	10YR 6/3	2.5Y 6/2	5	95	X					x			Sand	Sand
14		0	--	--	GLEY 1 2.5Y/N	--	--	--	--	--	--		--			No Recovery	
15		100	0.5	10YR 7/1	5YR 4/10	30	70	X					X			Silty Sand	Silty Sand
16		100	<0.5	10YR 7/1	2.5Y 6/6	30	70	X	X				X			Silty Sand	
17		100	<0.5	10YR 7/1	10YR 5/4	30	70	X					X			Silty Sand	
18		100	1	10YR 6/6	10YR 6/2	100						X	X	X (18')			Silty Clay (approx 20% silt)
19		100	<0.5	10 YR 6/4	GLEY 2 3/5PB	100						X	X				
20		EOB	EOB	--	-	--	--	--	--	--	--	--	--	--	--	--	20' = End of Boring
				End of boring at 20 ft. Abandoned with bentonite.													blue shaded = target wet (perched zone) sand interval

Design Verification, Perched Zone Pilot Study - Fayetteville Works Site - Fayetteville, NC
5/9/2019
Boring DV-3

Depth	Time	Physical				Grain Size Info.					Moisture			Contact		Soil Classification	Comments
(ft.)	Time	Recovery	Penetrometer	Pre-app Munsell	Post-app Munsell (DV-6)	Fines%	Sand%	Fine Sand	Med Sand	Coarse S	Dry	Moist	Wet	Sharp	Gradation	Name	
0-8	St-16:00		--	--	-	--	--	--	--	--	X			--	--	--	Sand Loam to 1.5 ft, then sandy silt to 7.2 ft (no Recovery 3.2 - 5'), then sand. Top 8 ft is all dry, mostly stiff
8		100	<0.5	-	-	--	--	--	--	--	X					Sand	
9		20	<0.5	--	GLEY 1 3/N	--	--	--	--	--	X					Sand	No recovery 9.2-10'
10		100	<0.5	10YR 7/2	GLEY 1 5+/N	10	90	X			X					Sand	
11		100	1.5	10YR 7/1	2.5Y 6/1	60	40	X			X					Silt and Sand	
12		100	0.5	10YR 7/2	2.5Y 6/2	10	90	X				X	X			Sand	Becoming moist, then wet starting at ~12 ft
13		100	2.5	10 YR 6/2	GLEY 1 2.5/N+	5	95	X					X			Sand	@13-13.2 and at 13.8-14 silt, sand and clay, stiff
14		--	1.5	--	GLEY 1 2.5/N+	--	--	--	--	--	--	--	--			No Recovery	No recovery 14-15'
15		100	<0.5	10 YR 7/1	GLEY 1 3/N	30	70	X					X			Silty Sand	
16		100	<0.5	10 YR 7/1	GLEY 2.5/N	40	60	X					X			Silty Sand	Pronounced sat zone 16.5-17.2 ft
17		100	<0.5	10 YR 7/1	GLEY 1 4/N	30	70	X					X			Silty Sand	
18		100	<0.5	10 YR 7/1	GLEY 1 4/N	5	95	X					X			Sand	Pronounced sat zone 18.5-19.1 ft
19		100	<0.5	10 YR 7/1 --> 5/6 @19.5'	GLEY 1 3/N	10	90	X					X	X (19.5')			
20		EOB	EOB	--	2.5Y 5/6	--	--	--	--	--	--	--	--	--	--	--	20' = End of Boring
				End of boring at 20 ft. Abandoned with bentonite.													blue shaded = target wet (perched zone) sand interval

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Design Verification, Perched Zone Pilot Study - Fayetteville Works Site - Fayetteville, NC
5/9/2019
Boring DV-3

Depth	Time	Physical				Grain Size Info.					Moisture			Contact		Soil Classification	Comments
(ft.)	Time	Recovery	Penetrometer	Pre-app Munsell	Post-app Munsell (DV-8)	Fines%	Sand%	Fine Sand	Med Sand	Coarse S	Dry	Moist	Wet	Sharp	Gradation	Name	
0-8	St-16:00		--	--	-	--	--	--	--	--	X			--	--	--	Sand Loam to 1.5 ft, then sandy silt to 7.2 ft (no Recovery 3.2 - 5'), then sand. Top 8 ft is all dry, mostly stiff
8		100	<0.5	-	-	--	--	--	--	--	X					Sand	
9		20	<0.5	--	-	--	--	--	--	--	X					Sand	No recovery 9.2-10'
10		100	<0.5	10YR 7/2	2.5Y 6/1	10	90	X			X					Sand	
11		100	1.5	10YR 7/1	2.5Y 6/1	60	40	X			X					Silt and Sand	
12		100	0.5	10YR 7/2	2.5Y 6/1	10	90	X				X	X			Sand	Becoming moist, then wet starting at ~12 ft
13		100	2.5	10 YR 6/2	GLEY 1 2.5+/N	5	95	X					X			Sand	@13-13.2 and at 13.8-14 silt, sand and clay, stiff
14		--	1.5	--	2.5Y 5/1	--	--	--	--	--	--	--	--			No Recovery	No recovery 14-15'
15		100	<0.5	10 YR 7/1	2.5Y 5/1 (20% recovery 15-20 ft bgs)	30	70	X					X			Silty Sand	
16		100	<0.5	10 YR 7/1		40	60	X					X			Silty Sand	Pronounced sat zone 16.5-17.2 ft
17		100	<0.5	10 YR 7/1		30	70	X					X			Silty Sand	
18		100	<0.5	10 YR 7/1		5	95	X					X			Sand	Pronounced sat zone 18.5-19.1 ft
19		100	<0.5	10 YR 7/1 --> 5/6 @19.5'		10	90	X					X	X (19.5')			
20		EOB	EOB	--		--	--	--	--	--	--	--	--	--	--	--	20' = End of Boring
				End of boring at 20 ft. Abandoned with bentonite.													blue shaded = target wet (perched zone) sand interval

REGENESIS REMEDIATION SERVICES
Technology-Based Solutions for the Environment

Design Verification, Perched Zone Pilot Study - Fayetteville Works Site - Fayetteville, NC
5/9/2019
Boring DV-4

Depth	Time	Physical				Grain Size Info.					Moisture			Contact		Soil Classification	Comments
(ft.)	Time	Recovery	Penetrometer	Pre-app Munsell	Post-app Munsell (DV-9)	Fines%	Sand%	Fine Sand	Med Sand	Coarse S	Dry	Moist	Wet	Sharp	Gradation	Name	
0-8'	St-14:20		--	--		--	--	--	--	--	X			--	--	--	Sand Loam to 1.5 ft, then silt and sand. Top 10 ft is all dry, mostly stiff/dense.
					GLEY 1 2.5/N												
10		100	0.75	10 YR 6/4	GLEY 1 3/N	30	70	X			X					Silty Sand	
11		100	1	10 YR 6/1	GLEY 1 3/N	10	90	X			X					Sand	
12		100	2.25	10 YR 6/1	10YR 7/1	20	80	X					x (12.5')			Silty Sand	
13		100	0.75	10 YR 6/4	10YR 6/2	20	80	X					X			Silty Sand	
14		20	<0.5	--	GLEY 1 2.5/N	--	--	--					X			--	No recovery 14.2-15 ft
15		100	<0.5	10 YR 7/1	10YR 7/1	10	90	X					X			Sand	
16		100	<0.5	10 YR 7/1	GLEY 1 5/N	10	90	X					X			Sand	
17		100	<0.5	10 YR 6/1	10YR 7/1	30	70	X					X			Silty Sand	
18		100	<0.5	10 YR 7/1	GLEY 1 2.5/N	5	95	X					X			Sand	
19		100	<0.5	10 YR 6/1->5/4	-	5/100	95/0	X/'--					X	X (19.2')			@19.2 ft - Sand to Clay contact, lt gray to gray/brown
20		EOB	EOB	--	-	--	--	--	--	--	--	--	--	--	--	--	20' = End of Boring
				End of boring at 20 ft. Abandoned with bentonite.													blue shaded = target wet (perched zone) sand interval

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Design Verification, Perched Zone Pilot Study - Fayetteville Works Site - Fayetteville, NC
5/9/2019
Boring DV-5

Depth	Time	Physical			Grain Size Info.					Moisture			Contact		Soil Classification	Comments
(ft.)	Time	Recovery	Penetrometer	Munsell	Fines%	Sand%	Fine Sand	Med Sand	Coarse S	Dry	Moist	Wet	Sharp	Gradation	Name	
0-8	St-16:00		--	--	--	--	--	--	--	X			--	--	--	Sand Loam to 2.2 ft, then silt and sand to 7 ft, fine sand and silt to 10 ft, top 10 ft is all dry, mostly stiff/dense
8		100	1	--	--	--	--	--	--	X			--	--	--	
9		50	<0.5	--	--	--	--	--	--	X			--	--	--	
10		100	<0.5	10 YR 4/2	10	90	X			X					Sand	Sand
11		100	<0.5	10 YR 7/4	0	100	X			X					Sand	
12		100	2	10 YR 6/2	70	30	X				X	X (12.7')			Silty Sand	Silt zone, stiff - 12-12.7, increasing moisture
13		25	<0.5		10	90	X	X				X			Sand	
14		--	--	--	--	--	--	--	--	--	--	--			--	No recovery 14-15'
15		100	<0.5	10 YR 7/1	5	95	X					X			Sand	
16		100	<0.5	10 YR 7/1	10	90	X					X			Sand	
17		100	<0.5	10 YR 7/1	30	70	X					X			Silty Sand	
18		100	<0.5	10 YR 7/1	30	70	X					X			Silty Sand	
19		50	<0.5	--	--	--	--	--	--	--	--	X			--	
20		100	<0.5	10 YR 5/2	5	95						X			Sand	@20.8 - contact, sand to clay
21		100	<0.5	10 YR 5/3	100	0					X	X			Clay, some silt	
22		30	<0.5	--	--	--					X	X			Clay, some silt	
23		EOB	EOB	--	--	--	--	--	--	--	X	X	--	--	--	23' = End of Boring
				End of boring at 20 ft. Abandoned with bentonite.												blue shaded = target wet (perched zone) sand interval

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APPENDIX C – Photo Log

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Photo Log: Perched Zone Pilot Study Area at the Fayetteville Works Site

Photo 1: Perched Zone Pilot Study prior to the PlumeStop application. MW-35 pictured in center.

Photo 2: Staging area for RRS equipment, water, and product.

Photo 3: Product delivery area.

Photo 4: Hydrant water source located along the truck delivery route for Fayetteville Works.

Photo 5: Layout of injection locations. MW-34 pictured in foreground.

Photo 6: Core sections of DV-1 pre-application soil boring.

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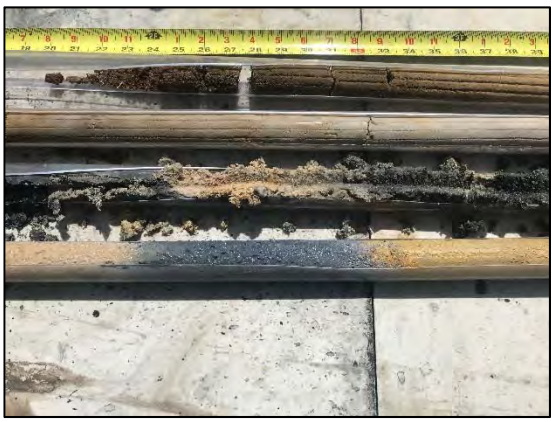

Photo 7: Post-application boring DV-1b showing concentrated PlumeStop in a banding pattern.

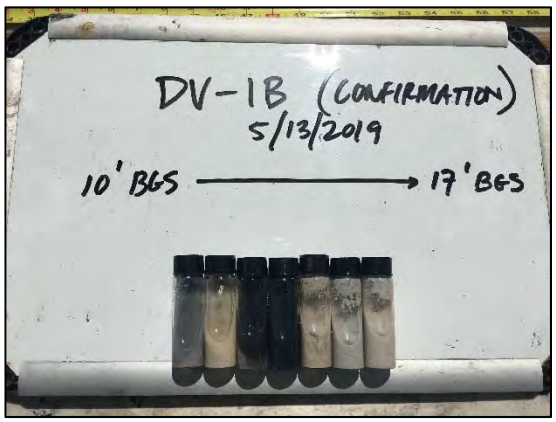

Photo 8: DV-1b sediments mixed with water demonstrating coloration by PlumeStop.

Photo 9: Pre-application soil boring DV-2.

Photo 10: Post-application cores of DV-2b denoting PlumeStop concentration at depth.

Photo 11: Soil settling vials of DV-2b sediments.

Photo 12: Pre-application boring DV-3.

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Photo 13: Post-application core DV-6 located in the center of the treatment area.

Photo 14: Core sediments demonstrating significant influence from 13-20 ft bgs.

Photo 15: Pre-application soil boring DV-4

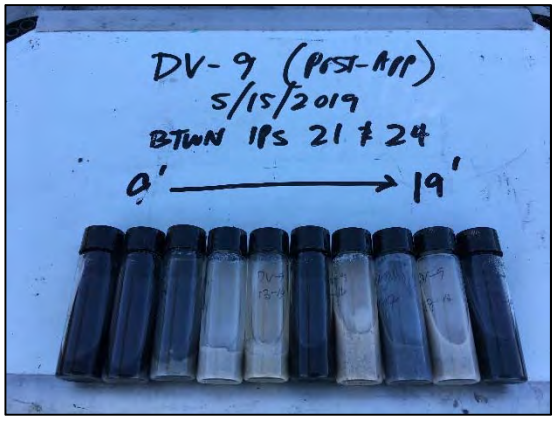

Photo 16: Post-application soil boring DV-9

Photo 17: Pre-application boring DV-5.

Photo 18: Bailed sample of groundwater from PZ-3 showing PlumeStop in sample.

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Photo 19: PlumeStop in bailed sample from one of the permanent monitoring wells in the area.

Photo 20: Injections in progress in the Perched Zone Area.

Photo 21: Perched Zone after completing injections. MWs 34-36 pictured.

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APPENDIX D – Injection Logs:

Table 1: Rows 1 & 2

Table 2: Row 3

PLUME STOP
Liquid Activated Carbon

Parsons - Fayetteville Works Site
PlumeStop Injection Summary Log
Perched Zone Rows 1 & 2
Table 1

REGENESIS
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Injection Point	Date	Time	Injection Depth (feet)	Injection Pressure (psi)	Flow Rate (gpm)	Volume of PlumeStop Reagent Injected				Total Gallons Per Location	PlumeStop Reagent Concentration (ppm)	Pounds of PlumeStop Stout Injected Per Time Point	Total Pounds of PlumeStop Injected Per Location	Comments	Injection Tooling
						Beginning Flow Meter (gal)	Ending Flow Meter (gal)	Gallons Injected Per Time Point	Gallons Injected Per Interval						
1	5/8/2019	10:30	17-14	28	1.23	0.00	5.25	5.25	90	183	30,000	6.57	229	DVT location	3-Foot Screen
	5/8/2019	10:38		21	1.38	5.25	14.76	9.51			30,000	11.90			
	5/8/2019	10:41		23	2.77	14.76	21.15	6.40			30,000	8.01			
	5/8/2019	10:48		20	3.37	21.15	39.12	17.96			30,000	22.48			
	5/8/2019	10:56		18	9.23	39.12	66.72	27.60			30,000	34.55			
	5/8/2019	11:02		18	4.15	66.72	90.19	23.47			30,000	29.38			
	5/8/2019	-	14-11	36	4.11	90.19	93.24	3.05	93		30,000	3.82			
	5/8/2019	11:10		27	4.11	93.24	126.30	33.05			30,000	41.37			
	5/8/2019	11:14		30	4.68	126.30	144.00	17.70			30,000	22.15			
	5/8/2019	11:23		30	4.68	144.00	182.97	38.97			30,000	48.78			
2	5/8/2019	11:46	17-14	31	4.68	0.00	3.20	3.20	93	183	30,000	4.01	229		3-Foot Screen
	5/8/2019	11:52		27	4.94	3.20	20.89	17.69			30,000	22.14		Slight surfacing around rod.	
	5/8/2019	12:02		22	3.55	20.89	59.99	39.10			30,000	48.94			
	5/8/2019	12:11		23	3.54	59.99	92.94	32.95			30,000	41.25			
	5/8/2019	12:17	13-10	8	3.99	92.94	100.95	8.01	90		30,000	10.03		Raised extra foot due to surfacing from rod joint.	
	5/8/2019	12:23		7	3.76	100.95	122.70	21.74			30,000	27.22			
	5/8/2019	12:38		6	3.78	122.70	183.15	60.45			30,000	75.67			
3	5/8/2019	12:43	17-14	27	3.91	0.00	6.72	6.72	92	187	30,000	8.41	234		3-Foot Screen
	5/8/2019	12:49		27	4.66	6.72	34.31	27.58			30,000	34.52			
	5/8/2019	12:55		24	4.68	34.31	58.18	23.87			30,000	29.88			
	5/8/2019	13:03		12	2.37	58.18	91.85	33.67			30,000	42.15			
	5/8/2019	13:20	14-11	16	4.24	91.85	106.47	14.62	95		30,000	18.29			
	5/8/2019	13:30		16	4.35	106.47	150.57	44.10			30,000	55.20			
	5/8/2019	13:38		-	-	150.57	186.65	36.09			30,000	45.17			
4	5/8/2019	14:42	17-14	40	5.22	0.00	9.54	9.54	93	170	30,000	11.94	213		3-Foot Screen
	5/8/2019	14:52		28	5.27	9.54	48.54	39.00			30,000	48.82			
	5/8/2019	15:00		25	5.25	48.54	93.01	44.47			30,000	55.66			
	5/8/2019	15:03	14-11	28	5.27	93.01	112.18	19.17	77		30,000	24.00		Slight surfacing around rod.	
	5/8/2019	15:11		17	3.38	112.18	143.66	31.48			30,000	39.40			
	5/8/2019	15:20		-	-	143.66	170.13	26.47			30,000	33.14			
5	5/9/2019	14:14	17-14	21	4.25	0.00	90.67	90.67	91	184	30,000	113.49	230		3-Foot Screen
	5/9/2019	14:46	14-11	11	4.50	90.67	183.78	93.11	93		30,000	116.54			
6	5/9/2019	10:58	17-14	10	1.89	0.00	2.25	2.25	95	183	30,000	2.82	230		3-Foot Screen
	5/9/2019	11:02		23	3.92	2.25	9.98	7.73			30,000	9.68			
	5/9/2019	11:28		22	7.07	9.98	94.53	84.55			30,000	105.83			
	5/9/2019	11:48	14-11	0	4.58	94.53	183.36	88.83	89		30,000	111.18			
7	5/8/2019	13:15	17-14	28	3.65	0.00	9.82	9.82	91	183	30,000	12.30	229		3-Foot Screen
	5/8/2019	13:21		30	4.33	9.82	26.12	16.29			30,000	20.39			
	5/8/2019	13:31		32	4.23	26.12	66.05	39.93			30,000	49.98			
	5/8/2019	13:37		44	4.11	66.05	91.37	25.32			30,000	31.70			
	5/8/2019	13:47	14-11	10	4.48	91.37	102.70	11.33	92		30,000	14.18			
	5/8/2019	13:52		6	4.45	102.70	146.40	43.69			30,000	54.69			
	5/8/2019	14:00		5	4.48	146.40	183.09	36.70			30,000	45.93			
8	5/9/2019	15:12	17-14	33	1.67	0.00	6.54	6.54	100	186	30,000	8.19	232		3-Foot Screen
	5/9/2019	15:42		-	-	6.54	99.82	93.28			30,000	116.76			
	5/9/2019	15:55	14-11	20	0.57	99.82	129.21	29.39	86		30,000	36.78			
	5/9/2019	16:07		-	-	129.21	185.68	56.47			30,000	70.69			
9	5/9/2019	10:45	17-14	80	1.10	0.00	8.54	8.54	94	183	30,000	10.68	229		3-Foot Screen
	5/9/2019	11:02		25	3.63	8.54	40.58	32.05			30,000	40.11			
	5/9/2019	11:33		10	4.87	40.58	93.80	53.22			30,000	66.61			
	5/9/2019	11:55	14-11	6	1.49	93.80	183.09	89.30	89		30,000	111.77			
10	5/13/2019	11:59	18-15	32	3.32	0.00	5.55	5.55	92	193	30,000	6.95	241		3-Foot Screen
	5/13/2019	12:22		29	4.09	5.55	91.65	86.10			30,000	107.77			
	5/13/2019	13:13	15-12	10	-	91.65	172.07	80.41	101		30,000	100.65		Flowmeter stopped.	
	5/13/2019	-	-	-	-	172.07	192.63	20.56			30,000	25.74		Volume estimated.	
11	5/9/2019	15:23	18-15	27	5.14	0.00	8.00	8.00	88	170	30,000	10.01	213		3-Foot Screen
	5/9/2019	15:39		21	5.81	8.00	88.49	80.49			30,000	100.75			
	5/9/2019	15:55	15-12	22	4.14	88.49	119.49	31.00	82		30,000	38.80			
	5/9/2019	16:07		-	-	119.49	170.09	50.60			30,000	63.33			
12	5/13/2019	14:58	18-15	22	-	0.00	192.63	192.63	193	193	30,000	241.12	241	Location volume injected at depth.	3-Foot Screen
13	5/13/2019	12:05	18-15	12	-	0.00	4.57	4.57	95	193	30,000	5.72	241		3-Foot Screen
	5/13/2019	12:30		-	-	4.57	46.83	42.26			30,000	52.89		Backpressure noted.	
	5/13/2019	13:11		0	-	46.83	95.15	48.32			30,000	60.48			
	5/13/2019	-	15-12	-	-	95.15	192.63	97.49	97		30,000	122.02		Volume estimated.	
14	5/14/2019	8:09	18-15	19	4.59	0.00	96.36	96.36	96	171	30,000	120.61	214		3-Foot Screen
	5/14/2019	8:33	15-12	12	4.37	96.36	171.05	74.68	75		30,000	93.48			
15	5/13/2019	14:32	18-15	18	3.69	0.00	88.39	88.39	88	193	30,000	110.63	241		3-Foot Screen
	5/13/2019	-	15-12	-	-	88.39	192.63	104.25	104		30,000	130.48		Volume estimated.	
16	5/14/2019	8:01	18-15	20	4.81	0.00	76.76	76.76	77	172	30,000	96.07	215		3-Foot Screen
	5/14/2019	8:30	15-12	15	4.04	76.76	171.58	94.83	95		30,000	118.69			

PLUME STOP Liquid Activated Carbon

Parsons - Fayetteville Works Site
PlumeStop Injection Summary Log
Perched Zone Rows 1 & 2
Table 1

REGENESIS REMEDIATION SERVICES Technology-Based Solutions for the Environment

Injection Point	Date	Time	Injection Depth (feet)	Injection Pressure (psi)	Flow Rate (gpm)	Volume of PlumeStop Reagent Injected				Total Gallons Per Location	PlumeStop Reagent Concentration (ppm)	Pounds of PlumeStop Stout Injected Per Time Point	Total Pounds of PlumeStop Injected Per Location	Comments	Injection Tooling
						Beginning Flow Meter (gal)	Ending Flow Meter (gal)	Gallons Injected Per Time Point	Gallons Injected Per Interval						
17	5/13/2019	11:33	20-18	23	6.22	0.00	9.18	9.18	69	245	30,000	11.49	306		3-Foot Screen
	5/13/2019	12:13		14	4.37	9.18	68.86	59.68			30,000	74.69			
	5/13/2019	12:53	18-15	8	2.97	68.86	163.08	94.23	176		30,000	117.94			
	5/13/2019	13:27	15-12	4	4.53	163.08	244.83	81.75			30,000	102.32			
18	5/14/2019	10:40	20-19	125	1.62	0.00	15.13	15.13	15	235	30,000	18.93	295		Pressure Activated Probe
	5/14/2019	10:44	19-18.5	21	3.36	15.13	29.89	14.76	15		30,000	18.48			
	5/14/2019	10:49	18.5-18	19	3.74	29.89	46.04	16.15	16		30,000	20.21			
	5/14/2019	10:53	18-17.5	19	4.22	46.04	60.26	14.23	14		30,000	17.81			
	5/14/2019	10:56	17.5-17	18	4.27	60.26	80.22	19.96	20		30,000	24.98			
	5/14/2019	11:00	17-16.5	18	4.29	80.22	91.05	10.83	11		30,000	13.55			
	5/14/2019	11:03	16.5-16	18	4.31	91.05	106.35	15.30	15		30,000	19.15			
	5/14/2019	11:07	16-15.5	17	4.32	106.35	121.19	14.83	15		30,000	18.57			
	5/14/2019	11:09	15.5-15	17	4.33	121.19	131.25	10.06	10		30,000	12.59			
	5/14/2019	11:15	15-14.5	14	4.21	131.25	146.21	14.96	15		30,000	18.73			
	5/14/2019	11:19	14.5-14	15	4.35	146.21	164.01	17.80	18		30,000	22.28			
	5/14/2019	11:22	14-13.5	16	4.39	164.01	177.05	13.04	13		30,000	16.33			
	5/14/2019	11:25	13.5-13	16	4.43	177.05	192.18	15.13	15		30,000	18.93			
	5/14/2019	11:30	13-12.5	15	4.43	192.18	235.43	43.26	43		30,000	54.14			
19	5/14/2019	7:55	20-18	10	4.95	0.00	61.74	61.74	62	241	30,000	77.28	301		3-Foot Screen
	5/14/2019	8:13	18-15	0	2.67	61.74	158.49	96.75	97		30,000	121.10			
	5/14/2019	8:32	15-12	0	4.13	158.49	240.86	82.38	82		30,000	103.11			
20	5/13/2019	14:05	20-18	13	2.95	0.00	60.95	60.95	61	193	30,000	76.29	241		3-Foot Screen
	5/13/2019	14:37	18-15	13	4.18	60.95	155.48	94.53	95		30,000	118.33			
	5/13/2019	-	15-12	-	-	155.48	192.63	37.15	37		30,000	46.50		Volume estimated.	
21	5/14/2019	14:29	12-13	6	1.76	0.00	30.17	30.17	30	220	30,000	37.77	275	Top-down approach.	3-Foot Screen
	5/14/2019	15:06	13-14	13	3.68	30.17	60.29	30.12	30		30,000	37.70			
	5/14/2019	15:22	14-15	84	3.38	60.29	92.84	32.55	33		30,000	40.74			
	5/14/2019	15:44	15-16	13	2.50	92.84	121.35	28.50	29		30,000	35.68			
	5/14/2019	16:04	16-17	46	0.91	121.35	149.43	28.08	28		30,000	35.15			
	5/14/2019	16:34	17-18	110	1.29	149.43	176.04	26.61	27		30,000	33.31			
	5/15/2019	8:45	18-20	125	0.50	0.00	43.95	43.95	44		30,000	55.02		Clogged screen.	
22	5/15/2019	14:33	20-18	12	3.54	0.00	10.20	10.20	95	307	30,000	12.77	385		3-Foot Screen
	5/15/2019	14:52		6	4.43	10.20	94.56	84.36			30,000	105.59			
	5/15/2019	14:54	18-15	4	4.47	94.56	102.68	8.12	104		30,000	10.17			
	5/15/2019	15:09		-	-	102.68	122.31	19.63			30,000	24.57			
	5/16/2019	6:58		6	5.20	120.52	196.57	76.05			30,000	95.19			
	5/16/2019	7:20	15-12	-	-	0.00	109.04	109.04	109		30,000	136.48			
23	5/16/2019	9:28	21-18	32	5.71	0.00	13.42	13.42	77	247	30,000	16.80	309		3-Foot Screen
	5/16/2019	9:43		25	5.65	13.42	77.24	63.82			30,000	79.88			
	5/16/2019	10:00	18-15	22	5.98	77.24	176.63	99.39	99		30,000	124.41			
	5/16/2019	10:22	15-12	-	-	176.63	246.55	69.92	70		30,000	87.52			
24	5/14/2019	14:35	13-14	120	1.75	0.00	29.88	29.88	30	299	30,000	37.40	374	Top-down approach.	3-Foot Screen
	5/14/2019	15:04	14-15	0	3.40	29.88	60.98	31.10	31		30,000	38.93			
	5/14/2019	15:20	15-16	120	4.65	60.98	90.50	29.52	30		30,000	36.94			
	5/14/2019	15:42	16-17	75	1.93	90.50	121.19	30.69	31		30,000	38.41			
	5/14/2019	15:57	17-18	32	4.04	121.19	151.41	30.22	30		30,000	37.83			
	5/14/2019	16:11	18-19	52	2.19	151.41	182.83	31.43	31		30,000	39.34			
	5/15/2019	7:59	19-20	10	1.97	0.00	31.08	31.08	31		30,000	38.90			
	5/15/2019	8:18	20-21	78	1.75	31.08	65.89	34.81	35		30,000	43.57			
	5/15/2019	11:16	21-22	47	1.83	65.89	115.81	49.93	50		30,000	62.49			
25	5/16/2019	7:58	22-19	28	4.80	0.00	32.18	32.18	122	324	30,000	40.28	406		3-Foot Screen
	5/16/2019	8:15		20	4.78	32.18	121.52	89.34			30,000	111.83			
	5/16/2019	8:22	19-16	14	2.92	121.52	147.09	25.56	86		30,000	32.00			
	5/16/2019	8:42		17	3.37	147.09	207.41	60.32			30,000	75.50			
	5/16/2019	9:11	16-13	11	5.08	207.41	324.27	116.86	117		30,000	146.27			
26	5/15/2019	14:15	21-18	32	5.08	0.00	5.80	5.80	6	321	30,000	7.26	402		3-Foot Screen
	5/15/2019	14:40	18-15	17	4.72	5.80	99.49	93.69	191		30,000	117.27			
	5/15/2019	14:41		19	3.63	99.49	101.36	1.87			30,000	2.34			
	5/15/2019	15:10		-	-	101.36	177.62	76.26			30,000	95.45			
	5/16/2019	6:38		23	4.81	175.02	194.15	19.13			30,000	23.95			
	5/16/2019	7:04	15-12	11	9.91	0.00	124.41	124.41	124		30,000	155.72			
27	5/16/2019	8:24	21-18	9	3.89	0.00	42.38	42.38	103	305	30,000	53.05	381		3-Foot Screen
	5/16/2019	8:39		9	3.97	42.38	103.12	60.74			30,000	76.02			
	5/16/2019	9:04	18-15	0	2.29	103.12	187.24	84.13	202		30,000	105.30			
	5/16/2019	9:39		0	3.99	187.24	304.79	117.54			30,000	147.13			
28	5/16/2019	7:42	22-19	26	5.61	0.00	49.68	49.68	117	324	30,000	62.18	405		3-Foot Screen
	5/16/2019	7:54		19	4.50	49.68	116.55	66.87			30,000	83.70			
	5/16/2019	7:58	19-16	19	4.86	116.55	132.79	16.24	101		30,000	20.32			
	5/16/2019	8:14		17	4.72	132.79	217.86	85.07			30,000	106.48			
	5/16/2019	8:23	16-13	16	3.79	217.86	234.84	16.98	106		30,000	21.25			
	5/16/2019	8:44		19	4.44	234.84	323.55	88.71			30,000	111.04			

PLUME STOP Liquid Activated Carbon

Parsons - Fayetteville Works Site
PlumeStop Injection Summary Log
Perched Zone Rows 1 & 2
Table 1

REGENESIS REMEDIATION SERVICES Technology-Based Solutions for the Environment

Injection Point	Date	Time	Injection Depth (feet)	Injection Pressure (psi)	Flow Rate (gpm)	Volume of PlumeStop Reagent Injected				Total Gallons Per Location	PlumeStop Reagent Concentration (ppm)	Pounds of PlumeStop Stout Injected Per Time Point	Total Pounds of PlumeStop Injected Per Location	Comments	Injection Tooling
						Beginning Flow Meter (gal)	Ending Flow Meter (gal)	Gallons Injected Per Time Point	Gallons Injected Per Interval						
29	5/15/2019	10:20	13-13.5	5	4.47	0.00	16.10	16.10	16	316	30,000	20.15	395	Top-down approach.	Pressure Activated Probe
	5/15/2019	10:42	13.5-14	90	3.38	16.10	31.82	15.72	16		30,000	19.68		Surfacing noted.	
	5/15/2019	10:55	14-14.5	32	5.37	31.82	47.28	15.46	15		30,000	19.35			
	5/15/2019	11:13	14.5-15	30	5.69	47.28	62.77	15.49	15		30,000	19.39		Surfacing noted.	
	5/15/2019	11:22	15-15.5	18	3.69	62.77	78.76	15.98	16		30,000	20.01			
	5/15/2019	11:31	15.5-16	25	3.95	78.76	94.52	15.76	16		30,000	19.73			
	5/15/2019	11:46	16-16.5	65	1.99	94.52	110.12	15.60	16		30,000	19.52			
	5/15/2019	11:54	16.5-17	90	2.81	110.12	126.04	15.92	16		30,000	19.93			
	5/15/2019	12:00	17-17.5	21	5.44	126.04	142.36	16.32	16		30,000	20.43			
	5/15/2019	12:15	17.5-18	30	3.99	142.36	158.07	15.71	16		30,000	19.67			
	5/15/2019	13:06	22-18	25	3.67	0.00	8.14	8.14	8		30,000	10.19		Bottom-up	3-Foot Screen
	5/15/2019	13:17	18-15	19	5.16	8.14	58.21	50.06	50		30,000	62.66			
	5/15/2019	13:34	15-12	17	4.72	58.21	157.68	99.47	99		30,000	124.51			
30	5/15/2019	9:57	21-20	14	4.76	0.00	8.06	8.06	31	284	30,000	10.09	355		3-Foot Screen
	5/15/2019	10:02		8	4.92	8.06	31.18	23.12			30,000	28.94			
	5/15/2019	10:29	20-19	5	4.45	31.18	62.48	31.30	31		30,000	39.17			
	5/15/2019	10:37	19-18	8	4.85	62.48	95.59	33.11	33		30,000	41.45			
	5/15/2019	10:54	18-17	28	5.47	95.59	126.02	30.43	30		30,000	38.08			
	5/15/2019	11:06	17-16	25	10.05	126.02	157.44	31.42	31		30,000	39.33			
	5/15/2019	11:23	16-15	18	8.31	157.44	188.19	30.75	31		30,000	38.49			
	5/15/2019	11:33	15-14	0	3.57	188.19	224.53	36.34	36		30,000	45.49			
	5/15/2019	11:42	14-13	0	4.70	224.53	253.10	28.57	29		30,000	35.76			
	5/15/2019	11:47	13-12	0	4.55	253.10	283.56	30.46	30		30,000	38.12			
31	5/15/2019	10:02	13-13.5	90	6.23	0.00	17.76	17.76	18	75	30,000	22.23	94	Top-down approach.	Pressure Activated Probe
	5/15/2019	10:45	13.5-14	87	2.46	17.76	21.22	3.46	3		30,000	4.34			
	5/15/2019	11:03	14-14.5	86	4.14	21.22	47.07	25.85	26		30,000	32.36			
	5/15/2019	11:11	14.5-15	46	4.39	47.07	62.98	15.91	16		30,000	19.92		Surfacing.	
	5/15/2019	11:25	15-15.5	46	5.79	62.98	74.79	11.81	12		30,000	14.78		Abandoned. Remaining volume injected at adjacent IP-32.	
32	5/15/2019	13:45	22-19	9	4.53	0.00	126.36	126.36	204	491	30,000	158.16	615	IP-31 15-22' interval volume injected at IP-32.	3-Foot Screen
	5/15/2019	14:06		-	-	126.36	203.65	77.29			30,000	96.74			
	5/15/2019	14:19	19-16	34	3.19	203.65	205.61	1.96	172		30,000	2.46			
	5/15/2019	14:36		20	4.69	205.61	281.98	76.37			30,000	95.59			
	5/15/2019	14:58		17	4.83	281.98	375.57	93.59			30,000	117.14			
	5/15/2019	15:11	16-13	-	-	375.57	376.21	0.64	116		30,000	0.80			
	5/16/2019	6:55		0	4.65	370.70	485.79	115.09			30,000	144.06			
										Total Gallons:			**Total Pounds Injected:**		
										7,351			9,201		

PLUME STOP
Liquid Activated Carbon

Parsons - Fayetteville Works Site
PlumeStop Injection Summary Log
Perched Zone Row 3
Table 2

REGENESIS
REMEDIATION SERVICES
Technology-Based Solutions for the Environment

Injection Point	Date	Time	Injection Depth (feet)	Injection Pressure (psi)	Flow Rate (gpm)	Volume of PlumeStop Reagent Injected				Total Gallons Per Location	PlumeStop Reagent Concentration (ppm)	Pounds of PlumeStop Injected Per Time Point	Total Pounds of PlumeStop Injected Per Location	Comments	Injection Tooling
						Beginning Flow Meter (gal)	Ending Flow Meter (gal)	Gallons Injected Per Time Point	Gallons Injected Per Interval						
33	5/10/2019	8:41	17-14	24	3.54	0.00	6.36	6.36	6	282	13,500	17.90	794		3-Foot Screen
	5/10/2019	9:33	14-11	18	-	6.36	133.68	127.33	276		13,500	358.48			
	5/10/2019	10:02		-	-	133.68	282.11	148.42			13,500	417.88		Volume estimated.	
34	5/9/2019	7:54	17-14	20	1.79	0.00	10.47	10.47	198	311	13,500	29.49	876		3-Foot Screen
	5/9/2019	8:17		29	5.03	10.47	44.03	33.56			13,500	94.48			
	5/9/2019	8:46		-	-	44.03	198.10	154.07			13,500	433.77			
	5/9/2019	8:52	14-11	20	5.45	198.10	201.68	3.59	113		13,500	10.10			
	5/9/2019	9:10		0	5.00	201.68	304.40	102.72			13,500	289.20		Surfacing from abandoned boring.	
	5/9/2019	9:18		-	-	304.40	311.10	6.70			13,500	18.86			
35	5/10/2019	8:11	17-14	27	3.50	0.00	9.75	9.75	143	282	13,500	27.46	794		3-Foot Screen
	5/10/2019	8:49		24	4.11	9.75	142.62	132.87			13,500	374.09			
	5/10/2019	8:51	14-11	21	4.25	142.62	150.97	8.34	139		13,500	23.49			
	5/10/2019	9:39		-	-	150.97	282.11	131.14			13,500	369.22		Volume estimated.	
36	5/10/2019	10:47	17-14	26	7.90	0.00	2.90	2.90	131	258	13,500	8.17	727		3-Foot Screen
	5/10/2019	11:35		10	2.47	2.90	79.67	76.76			13,500	216.13		Slight surfacing from around rod; decreased flow rate to mitigate.	
	5/10/2019	11:54		9	4.30	79.67	130.66	51.00			13,500	143.58			
	5/10/2019	12:55	14-11	10	3.08	130.66	258.35	127.68	128		13,500	359.49			
37	5/9/2019	8:13	17-14	10	-	0.00	4.49	4.49	153	297	13,500	12.65	836		3-Foot Screen
	5/9/2019	8:16		26	5.16	4.49	18.68	14.18			13,500	39.93			
	5/9/2019	8:46		-	-	18.68	152.80	134.13			13,500	377.63			
	5/9/2019	8:56	14-11	12	4.64	152.80	171.86	19.06	144		13,500	53.66			
	5/9/2019	9:18		10	6.37	171.86	272.95	101.09			13,500	284.63			
	5/9/2019	9:25		-	-	272.95	296.90	23.95			13,500	67.42			
38	5/10/2019	10:51	18-15	36	4.73	0.00	4.77	4.77	158	281	13,500	13.42	792		3-Foot Screen
	5/10/2019	11:34		24	5.00	4.77	112.31	107.54			13,500	302.77			
	5/10/2019	11:45		24	4.99	112.31	157.54	45.24			13,500	127.36			
	5/10/2019	12:36	15-12	12	3.79	157.54	281.43	123.89	124		13,500	348.80			
39	5/13/2019	10:28	19-16	32	4.60	0.00	32.42	32.42	158	284	13,500	91.28	800		3-Foot Screen
	5/13/2019	10:53		25	4.64	32.42	158.00	125.58			13,500	353.57		Slight backpressure noted.	
	5/13/2019	11:07	16-13	20	3.90	158.00	178.00	20.00	126		13,500	56.31			
	5/13/2019	11:27		20	4.26	178.00	284.00	106.00			13,500	298.44			
40	5/16/2019	10:41	19-16	20	5.06	0.00	4.35	4.35	132	263	13,500	12.24	742		3-Foot Screen
	5/16/2019	11:21		12	5.97	4.35	132.43	128.09			13,500	360.62			
	5/16/2019	11:23	16-13	10	4.85	132.43	138.00	5.57	131		13,500	15.67			
	5/16/2019	11:56		0	4.54	138.00	263.48	125.48			13,500	353.29			
41	5/10/2019	9:08	18-15	28	5.39	0.00	13.33	13.33	141	282	13,500	37.53	794		3-Foot Screen
	5/10/2019	10:02		-	-	13.33	141.05	127.72			13,500	359.60		Volume estimated.	
	5/10/2019	10:41	15-12	-	-	141.05	282.11	141.05	141		13,500	397.13		Volume estimated.	
42	5/16/2019	11:25	21-19	19	4.71	0.00	40.71	40.71	86	263	13,500	114.61	740		3-Foot Screen
	5/16/2019	11:35		19	4.92	40.71	85.51	44.80			13,500	126.14			
	5/16/2019	12:18	19-16	12	6.07	85.51	262.74	177.23	177		13,500	498.98			
43	5/16/2019	10:38	20-18	28	5.16	0.00	18.13	18.13	80	280	13,500	51.04	789		3-Foot Screen
	5/16/2019	10:58		18	3.81	18.13	80.14	62.02			13,500	174.61			
	5/16/2019	10:59	18-15	12	3.36	80.14	83.14	2.99	102		13,500	8.43			
	5/16/2019	11:37		8	2.31	83.14	181.86	98.72			13,500	277.95			
	5/16/2019	12:06	15-12	-	4.85	181.86	280.16	98.30	98		13,500	276.77			
44	5/10/2019	12:21	20-18	19	4.63	0.00	66.83	66.83	67	318	13,500	188.16	895		3-Foot Screen
	5/10/2019	12:49	18-15	15	4.31	66.83	176.58	109.75	110		13,500	309.01			
	5/10/2019	13:31	15-12	16	5.46	176.58	317.91	141.32	141		13,500	397.89			
45	5/16/2019	12:56	22-19	25	5.67	0.00	11.97	11.97	134	385	10,541	26.32	846		3-Foot Screen
	5/16/2019	13:27		8	4.14	11.97	134.29	122.32			10,541	268.91			
	5/16/2019	13:46	19-16	12	4.32	134.29	213.26	78.97	143		10,541	173.60			
	5/16/2019	14:04		11	3.30	213.26	277.18	63.92			10,541	140.51		Surfacing.	
	5/16/2019	14:48	16-13	11	3.14	277.18	384.93	107.75	108		10,541	236.88			
46	5/17/2019	6:53	22-19	12	2.88	0.00	18.20	18.20	144	346	10,541	40.01	761		3-Foot Screen
	5/17/2019	7:25		12	4.24	18.20	144.22	126.02			10,541	277.03			
	5/17/2019	8:00	19-16	12	4.87	144.22	272.86	128.64	129		10,541	282.79			
	5/17/2019	8:21	16-13	11	4.82	272.86	346.22	73.36	73		10,541	161.28		End of project volume.	
47	5/16/2019	13:05	22-19	14	4.26	0.00	18.86	18.86	137	350	10,541	41.47	769		3-Foot Screen
	5/16/2019	13:40		4	3.89	18.86	137.49	118.62			10,541	260.78			
	5/16/2019	13:47	19-16	18	3.70	0.00	35.61	35.61	132		10,541	78.29		Surfacing.	
	5/16/2019	14:15		6	3.42	35.61	132.39	96.78			10,541	212.76		Surfacing.	
	5/16/2019	14:50	16-13	6	3.54	132.39	212.48	80.09	80		10,541	176.07			
48	5/17/2019	6:54	22-19	8	2.68	0.00	13.61	13.61	108	383	10,541	29.93	843		3-Foot Screen
	5/17/2019	7:24		5	4.22	13.61	108.43	94.82			10,541	208.45			
	5/17/2019	7:54	19-16	4	6.34	108.43	277.96	169.53	170		10,541	372.69			
	5/17/2019	8:21	16-13	0	4.58	277.96	383.38	105.42	105		10,541	231.74		End of project volume.	
										Total Gallons:			**Total Pounds Injected:**		
										4,867			12,799		

REGENESIS
REMEDIATION SERVICES
Technology-Based Solutions for the Environment

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APPENDIX E – Water Level Measurements

PLUME STOP Liquid Activated Carbon

Parsons - Fayetteville Works Site
Perched Zone Pilot Study Area
Depth to Water (DTW) and PlumeStop Measurements

REGENESIS REMEDIATION SERVICES Technology-Based Solutions for the Environment

Location	Date	Time	DTW (ft from TOC)	DTW (ft bgs)	Concentration PlumeStop (ppm)	Comments
MW-31	5/10/19	-	15.81	13.61		Baseline.
	5/15/19	12:51	15.70	13.50		
	5/16/19	7:28	15.61	13.41		
	5/17/19	10:00	15.61	13.41		
MW-32	5/10/19	-	14.87	12.32		Baseline.
	5/17/19	9:58	14.69	12.14	0	
MW-33	5/10/19	-	14.32	11.82		Baseline.
	5/15/19	12:56	14.33	11.83		
	5/16/19	7:14	14.28	11.78		
	5/17/19	9:35	14.33	11.83		
MW-34	5/10/19	-	15.86	13.41		Baseline.
	5/13/19	9:29	15.89	13.44		
	5/14/19	8:57	15.66	13.21		
	5/14/19	12:02	16.71	14.26	6,550	
	5/14/19	16:40	15.85	13.40		
	5/15/19	8:37	15.27	12.82		
	5/15/19	12:33	15.55	13.10		
	5/16/19	7:25	15.54	13.09		
	5/17/19	7:19	14.71	12.26		
	5/17/19	8:36	14.71	12.26	9,550	
MW-35	5/10/19	-	15.35	12.90		Baseline.
	5/13/19	9:37	14.00	11.55	29,250	Pressure noted.
	5/13/19	15:16	14.56	12.11		
	5/14/19	8:53	14.80	12.35		
	5/14/19	11:55	14.84	12.39		
	5/14/19	16:40	15.14	12.69		
	5/15/19	8:43	15.19	12.74		
	5/16/19	7:21	15.07	12.62		
	5/17/19	7:27	15.05	12.60		
	5/17/19	9:05	15.11	12.66	16,050	
MW-36	5/8/19	10:33	15.62	12.62		Baseline.
	5/8/19	10:51	15.41	12.41		
	5/8/19	11:19	15.32	12.32		
	5/8/19	12:10	15.30	12.30		
	5/8/19	12:41	15.25	12.25		
	5/8/19	13:34	14.61	11.61	26,550	Sample bailed at 13:17.
	5/8/19	15:39	15.18	12.18		
	5/9/19	9:08	9.94	6.94		
	5/9/19	11:07	9.88	6.88		
	5/9/19	16:47	14.95	11.95		
	5/10/19	-	15.55	12.55		
	5/13/19	9:40	15.58	12.58	19,250	
	5/13/19	15:11	14.15	11.15		
	5/15/19	12:54	15.52	12.52		
	5/16/19	7:17	15.43	12.43		
	5/17/19	9:17	15.46	12.46	30,050	
PZ-1	5/8/19	10:30	15.78	11.91		Baseline; first bailed sample very cloudy.
	5/8/19	10:54	15.39	11.52		
	5/8/19	11:21	15.25	11.38		
	5/8/19	12:08	14.98	11.11		Well water clear.
	5/8/19	12:44	15.16	11.29		No PlumeStop in well.
	5/8/19	13:35	14.37	10.50		
	5/8/19	15:40	15.19	11.32	150	
	5/9/19	9:10	14.78	10.91		
	5/9/19	11:09	13.80	9.93		
	5/9/19	16:49	15.46	11.59		
	5/10/19	-	15.75	11.88		
	5/13/19	9:42	14.79	10.92	2,350	
	5/13/19	15:09	15.42	11.55		
	5/15/19	12:40	15.76	11.89		
	5/16/19	7:15	15.66	11.79		
	5/17/19	9:20	15.67	11.80	3,050	

PLUME STOP Liquid Activated Carbon

Parsons - Fayetteville Works Site
Perched Zone Pilot Study Area
Depth to Water (DTW) and PlumeStop Measurements

REGENESIS REMEDIATION SERVICES Technology-Based Solutions for the Environment

Location	Date	Time	DTW (ft from TOC)	DTW (ft bgs)	Concentration PlumeStop (ppm)	Comments
PZ-2	5/9/19	9:50	14.45	12.15		Baseline.
	5/9/19	10:57	15.37	13.07		
	5/9/19	16:52	14.39	12.09		
	5/10/19	-	14.54	12.24		
	5/13/19	9:32	14.56	12.26	21,550	
	5/13/19	15:13	14.05	11.75		
	5/14/19	8:48	14.01	11.71		
	5/14/19	11:52	14.16	11.86		
	5/14/19	16:40	14.34	12.04		
	5/15/19	8:41	14.30	12.00		
	5/15/19	12:35	15.44	13.14		
	5/16/19	7:23	13.88	11.58		
	5/17/19	7:25	14.39	12.09		
	5/17/19	8:58	14.30	12.00	10,050	
PZ-3	5/9/19	16:53	15.86	12.69		Baseline.
	5/10/19	-	15.97	12.80		
	5/13/19	9:30	16.03	12.86		
	5/14/19	9:00	16.82	13.65		
	5/14/19	12:00	15.88	12.71	6,550	
	5/15/19	8:39	15.89	12.72		
	5/15/19	12:32	15.75	12.58		
	5/16/19	7:33	15.62	12.45		
	5/17/19	8:40	15.58	12.41	21,050	
PZ-34	5/10/19	-	15.82	13.27		Baseline.
	5/14/19	12:38	15.88	13.33	0	
	5/15/19	12:43	15.91	13.36	0	
	5/16/19	7:19	15.91	13.36		
	5/17/19	10:02	15.80	13.25		

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APPENDIX D
LABORATORY REPORTS

ADQM DATA REVIEW
NARRATIVE

Site **Chemours FAY – Fayetteville**

Project **Regenesis Phase 1 Pilot Study**

Project Reviewer **Michael Aucoin, AECOM as a Chemours contractor**

Sampling Dates **May 2, 2019**
May 3, 2019
May 6, 2019
May 9, 2019
May 14, 2019

Analytical Protocol

Laboratory	Analytical Method	Parameter(s)
TestAmerica - Sacramento	537 Modified	PFAS[1]
TestAmerica - Sacramento	Cl. Spec. Table 3 Compound SOP	Table 3+ compounds
TestAmerica - Denver	8260B	Volatile Organics
TestAmerica - Denver	6010D	Calcium, total and dissolved
TestAmerica - Denver	2340 C-1997	Total Hardness as CaCO3
TestAmerica - Denver	9060	Total Organic Carbon
TestAmerica - Denver	9060	Dissolved Organic Carbon

[1] Perfluoroalkylsubstances, a list of 33 compounds including HFPO-DA.

Sample Receipt

The following items are noted for this data set:

- All samples were received in satisfactory condition and within EPA temperature guidelines on:

  May 7, 2019
  May 9. 2019
  May 10, 2019
  May 16, 2019
  July 26, 2019

The July sample receipt reflects additional volume of a May sample that was renamed as FAY-PS2019-Posttreat10-07252019 and provided to the laboratory to allow Table 3+ analysis to be completed.

Data Review

The project results reflect analysis of DFSA, MMF, MTP, and PPF Acid by the Table 3+ method for samples collected and analyzed during May. DFSA, MMF, MTP, and PPF Acid were subsequently dropped from the Table 3+ method due to overall poor performance in the presence of matrix effects, including inconsistent sample results, and were not reported from the July analysis of the May sample.

The electronic data submitted for this project was reviewed via the Data Verification Module (DVM) process.

Overall the data is acceptable for use without qualification, except as noted below:

- Non-detect results for MMF in two samples were qualified R and should be considered to be unusable due to very poor matrix spike recoveries.
- Results for total calcium, carbon disulfide, chloroform, and dissolved organic carbon (DOC) in one or more samples were qualified B and the reported results may be biased high, or false positives, due to a comparable concentration found in the associated equipment blank or lab method blank.
- Several analytical results have been qualified J as estimated, and non-detect results qualified UJ indicating an estimated reporting limit, due to a poor matrix spike recovery; sample analysis which exceeded the laboratory established hold time; and poor field duplicate or lab replicate precision. TOC and volatile organic results reported between the method detection limit (MDL) and practical quantitation limit (PQL) were qualified J as estimated. See the Data Verification Module (DVM) Narrative Report for which samples were qualified, the specific reasons for qualification, and potential bias in reported results.

Attachments

The DVM Narrative report is attached. The lab reports due to a large page count are stored on an AECOM network shared drive and are available to be posted on external shared drives, or on a flash drive.

Data Verification Module (DVM)

The DVM is an internal review process used by the ADQM group to assist with the determination of data usability. The electronic data deliverables received from the laboratory are loaded into the Locus EIM™ database and processed through a series of data quality checks, which are a combination of software (Locus EIM™ database Data Verification Module (DVM)) and manual reviewer evaluations. The data is evaluated against the following data usability checks:

- Field and laboratory blank contamination
- US EPA hold time criteria
- Missing Quality Control (QC) samples
- Matrix spike(MS)/matrix spike duplicate (MSD) recoveries and the relative percent differences (RPDs) between these spikes
- Laboratory control sample(LCS)/control sample duplicate (LCSD) recoveries and the RPD between these spikes
- Surrogate spike recoveries for organic analyses
- RPD between field duplicate sample pairs
- RPD between laboratory replicates for inorganic analyses
- Difference / percent difference between total and dissolved sample pairs.

There are two qualifier fields in EIM:

Lab Qualifier is the qualifier assigned by the lab and may not reflect the usability of the data. This qualifier may have many different meanings and can vary between labs and over time within the same lab. Please refer to the laboratory report for a description of the lab qualifiers. As they are lab descriptors they are not to be used when evaluating the data.

Validation Qualifier is the 3rd party formal validation qualifier if this was performed. Otherwise this field contains the qualifier resulting from the ADQM DVM review process. This qualifier assesses the usability of the data and may not equal the lab qualifier. The DVM applies the following data evaluation qualifiers to analysis results, as warranted:

Qualifier	Definition
B	Not detected substantially above the level reported in the laboratory or field blanks.
R	Unusable result. Analyte may or may not be present in the sample.
J	Analyte present. Reported value may not be accurate or precise.
UJ	Not detected. Reporting limit may not be accurate or precise.

The **Validation Status Code** field is set to "DVM" if the ADQM DVM process has been performed. If the DVM has not been run, the field will be blank.

If the DVM has been run (**Validation Status Code** equals "DVM"), use the **Validation Qualifier.**

DVM Narrative Report

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The reported non-detect result is unusable.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	MMF	3.6	UG/L	PQL		3.6	R	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	MMF	3.6	UG/L	PQL		3.6	R	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	MMF	3.6	UG/L	PQL		3.6	R	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	MMF	3.6	UG/L	PQL		3.6	R	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Contamination detected in equipment blank(s). Sample result does not differ significantly from the analyte concentration detected in the associated equipment blank(s).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-31	05/03/2019	280-123591-20	Chloroform	1.6	UG/L	MDL	0.16	1.0	B	8260B		5030B
GW0519-MW-33	05/02/2019	280-123591-18	Chloroform	1.7	UG/L	MDL	0.16	1.0	B	8260B		5030B
GW0519-MW-33-Z	05/02/2019	280-123591-19	Dissolved Organic Carbon	1200	UG/L	MDL	160	1000	B	9060		
GW0519-MW-34	05/02/2019	280-123591-1	Calcium	1.1	MG/L	MDL	0.078	0.2	B	6010D		3005A
GW0519-MW-34	05/02/2019	280-123591-1	Chloroform	1.0	UG/L	MDL	0.16	1.0	B	8260B		5030B
GW0519-MW-34-Z	05/02/2019	280-123591-2	Dissolved Organic Carbon	1200	UG/L	MDL	160	1000	B	9060		
GW0519-MW-35	05/02/2019	280-123591-3	Chloroform	2.0	UG/L	MDL	0.16	1.0	B	8260B		5030B
GW0519-MW-36	05/02/2019	280-123591-5	Chloroform	1.5	UG/L	MDL	0.16	1.0	B	8260B		5030B
GW0519-MW-36-D	05/02/2019	280-123591-7	Chloroform	1.5	UG/L	MDL	0.16	1.0	B	8260B		5030B
GW0519-PZ-32	05/03/2019	280-123591-14	Chloroform	2.0	UG/L	MDL	0.16	1.0	B	8260B		5030B
GW0519-EQBLK-1-Z	05/02/2019	280-123591-10	Dissolved Organic Carbon	260	UG/L	MDL	160	1000	B	9060		
GW0519-MW-32	05/03/2019	280-123591-16	Chloroform	0.19	UG/L	MDL	0.16	1.0	B	8260B		5030B

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Contamination detected in Method Blank(s). Sample result does not differ significantly from the analyte concentration detected in the associated method blank(s).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-35	05/02/2019	280-123591-3	Carbon Disulfide	0.47	UG/L	MDL	0.17	2.0	B	8260B		5030B
GW0519-MW-36	05/02/2019	280-123591-5	Carbon Disulfide	0.38	UG/L	MDL	0.17	2.0	B	8260B		5030B
GW0519-MW-34	05/02/2019	280-123591-1	Carbon Disulfide	0.64	UG/L	MDL	0.17	2.0	B	8260B		5030B
GW0519-MW-33	05/02/2019	280-123591-18	Carbon Disulfide	0.40	UG/L	MDL	0.17	2.0	B	8260B		5030B

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFECA B	0.060	UG/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFECA B	0.060	UG/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.060	ug/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.060	ug/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.11	ug/L	PQL		0.11	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.11	ug/L	PQL		0.11	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PES	0.046	UG/L	PQL		0.046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PES	0.046	UG/L	PQL		0.046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFECA-G	0.041	UG/L	PQL		0.041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFECA-G	0.041	UG/L	PQL		0.041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	EVE Acid	0.024	UG/L	PQL		0.024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	EVE Acid	0.024	UG/L	PQL		0.024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-31	05/03/2019	320-49945-1	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-31	05/03/2019	320-49945-1	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-EQBLK-1	05/02/2019	320-49940-8	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-EQBLK-1	05/02/2019	320-49940-8	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	DFSA	3.1	UG/L	PQL		3.1	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	DFSA	3.1	UG/L	PQL		3.1	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-34	05/02/2019	320-49940-4	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-34	05/02/2019	320-49940-4	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-34	05/02/2019	320-49940-4	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-34	05/02/2019	320-49940-4	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-35	05/02/2019	320-49940-5	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-35	05/02/2019	320-49940-5	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-35	05/02/2019	320-49940-5	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-35	05/02/2019	320-49940-5	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-PZ-32	05/03/2019	320-49940-1	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-PZ-32	05/03/2019	320-49940-1	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-PZ-32	05/03/2019	320-49940-1	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-PZ-32	05/03/2019	320-49940-1	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	DFSA	3.1	UG/L	PQL		3.1	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	DFSA	3.1	UG/L	PQL		3.1	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	PMPA	0.57	UG/L	PQL		0.57	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	PMPA	0.57	UG/L	PQL		0.57	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat5-05072019	05/09/2019	320-50147-6	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat5-05072019	05/09/2019	320-50147-6	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat6-05072019	05/09/2019	320-50147-7	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat6-05072019	05/09/2019	320-50147-7	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat7-05072019	05/09/2019	320-50147-8	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat7-05072019	05/09/2019	320-50147-8	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat8-05072019	05/09/2019	320-50147-9	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat8-05072019	05/09/2019	320-50147-9	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat1-05072019	05/09/2019	320-50147-2	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat1-05072019	05/09/2019	320-50147-2	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat1-05072019	05/09/2019	320-50147-2	DFSA	3.1	UG/L	PQL		3.1	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat1-05072019	05/09/2019	320-50147-2	DFSA	3.1	UG/L	PQL		3.1	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	R-EVE	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat2-05072019	05/09/2019	320-50147-3	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat2-05072019	05/09/2019	320-50147-3	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit. The actual detection limits may be higher than reported.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Posttreat3-05072019	05/09/2019	320-50147-4	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat3-05072019	05/09/2019	320-50147-4	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat4-05072019	05/09/2019	320-50147-5	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat4-05072019	05/09/2019	320-50147-5	MMF	3.6	UG/L	PQL		3.6	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded by a factor of 2. The reported non-detect result is considered to be an estimated value.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	NVHOS	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	NVHOS	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PES	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PES	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFECA B	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFECA B	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PEPA	0.020	UG/L	PQL		0.020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PEPA	0.020	UG/L	PQL		0.020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFESA-BP1	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFESA-BP1	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	N-methyl perfluoro-1-octanesulfonamide	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded by a factor of 2. The reported non-detect result is considered to be an estimated value.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	N-methyl perfluoro-1-octanesulfonamide	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFO2HxA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFO2HxA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFO3OA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFO3OA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFO4DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFO4DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFO5DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFO5DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	N-ethylperfluoro-1-octanesulfonamide	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	N-ethylperfluoro-1-octanesulfonamide	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	EVE Acid	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	EVE Acid	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFESA-BP2	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFESA-BP2	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	Hydro-EVE Acid	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	Hydro-EVE Acid	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded by a factor of 2. The reported non-detect result is considered to be an estimated value.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFECA-G	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFECA-G	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	R-EVE	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	Byproduct 4	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	Byproduct 4	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	Byproduct 5	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	Byproduct 5	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	Byproduct 6	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	Byproduct 6	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The reported non-detect result is considered to be an estimated value.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat8-05072019	05/09/2019	320-50147-9	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat8-05072019	05/09/2019	320-50147-9	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat4-05072019	05/09/2019	320-50147-5	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat4-05072019	05/09/2019	320-50147-5	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat5-05072019	05/09/2019	320-50147-6	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat5-05072019	05/09/2019	320-50147-6	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat5-05072019	05/09/2019	320-50147-6	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat5-05072019	05/09/2019	320-50147-6	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The reported non-detect result is considered to be an estimated value.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Posttreat6-05072019	05/09/2019	320-50147-7	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat6-05072019	05/09/2019	320-50147-7	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat6-05072019	05/09/2019	320-50147-7	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat6-05072019	05/09/2019	320-50147-7	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat7-05072019	05/09/2019	320-50147-8	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat7-05072019	05/09/2019	320-50147-8	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat7-05072019	05/09/2019	320-50147-8	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat7-05072019	05/09/2019	320-50147-8	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat8-05072019	05/09/2019	320-50147-9	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat8-05072019	05/09/2019	320-50147-9	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat1-05072019	05/09/2019	320-50147-2	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat1-05072019	05/09/2019	320-50147-2	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat1-05072019	05/09/2019	320-50147-2	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat1-05072019	05/09/2019	320-50147-2	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat2-05072019	05/09/2019	320-50147-3	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat2-05072019	05/09/2019	320-50147-3	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat2-05072019	05/09/2019	320-50147-3	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the data rejection level. The reported non-detect result is considered to be an estimated value.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
FAY-PS2019-Posttreat2-05072019	05/09/2019	320-50147-3	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat3-05072019	05/09/2019	320-50147-4	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat3-05072019	05/09/2019	320-50147-4	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat3-05072019	05/09/2019	320-50147-4	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat3-05072019	05/09/2019	320-50147-4	MTP	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat4-05072019	05/09/2019	320-50147-5	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat4-05072019	05/09/2019	320-50147-5	PPF Acid	0.38	UG/L	PQL		0.38	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	Byproduct 5	1.4	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	Byproduct 5	1.2	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	MMF	3.6	UG/L	PQL		3.6	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	MMF	7.6	UG/L	PQL		3.6	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	DFSA	91	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	Byproduct 5	1.4	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	Byproduct 5	1.3	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-35	05/02/2019	320-49940-5	Byproduct 5	1.1	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-35	05/02/2019	320-49940-5	Byproduct 5	1.1	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	MMF	3.6	UG/L	PQL		3.6	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	MMF	5.8	UG/L	PQL		3.6	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-35	05/02/2019	320-49940-5	MMF	3.6	UG/L	PQL		3.6	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-34	05/02/2019	320-49940-4	Byproduct 5	0.92	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-34	05/02/2019	320-49940-4	Byproduct 5	0.95	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	Byproduct 5	0.47	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	Byproduct 5	0.51	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-32	05/03/2019	320-49940-2	MMF	3.6	UG/L	PQL		3.6	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	Byproduct 5	1.4	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	Byproduct 5	1.4	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	Byproduct 5	1.5	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	Byproduct 5	1.6	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	MMF	3.6	UG/L	PQL		3.6	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-PZ-32	05/03/2019	320-49940-1	Byproduct 5	0.14	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-PZ-32	05/03/2019	320-49940-1	Byproduct 5	0.13	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFMOAA	115	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFMOAA	110.0	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason High relative percent difference (RPD) observed between field duplicate and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	MTP	0.58	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	MTP	0.59	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	Byproduct 4	0.74	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	Byproduct 4	0.78	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	DFSA	110	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	DFSA	110.0	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	280-123591-7	Total Hardness As CaCO3	13	MG/L	MDL	0.30	3.0	J	2340 C-1997		
GW0519-MW-36-D	05/02/2019	320-49940-7	Hfpo Dimer Acid	6.1	UG/L	PQL		0.064	J	537 Modified		3535_PFC
GW0519-MW-36	05/02/2019	320-49940-6	DFSA	75.0	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	280-123591-5	Total Hardness As CaCO3	7.1	MG/L	MDL	0.30	3.0	J	2340 C-1997		
GW0519-MW-36	05/02/2019	320-49940-6	MTP	0.47	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	MTP	0.39	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	Byproduct 4	0.56	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	Byproduct 4	0.56	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	Hfpo Dimer Acid	4.7	UG/L	PQL		0.066	J	537 Modified		3535_PFC

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Quality review criteria exceeded between the REP (laboratory replicate) and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Posttreat3-05072019	05/09/2019	320-50147-4	PFMOAA	1.8	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat5-05072019	05/09/2019	320-50147-6	PFMOAA	0.77	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PFO3OA	6.4	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PFO3OA	5.5	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PFO4DA	1.7	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PFO4DA	1.4	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PFO5DA	0.50	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PFO5DA	0.4	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PFESA-BP2	0.90	ug/L	PQL		0.030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PFESA-BP2	0.69	ug/L	PQL		0.030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	Hydro-EVE Acid	0.12	UG/L	PQL		0.028	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	Hydro-EVE Acid	0.098	UG/L	PQL		0.028	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	Byproduct 4	0.64	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	Byproduct 4	0.55	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-35	05/02/2019	320-49940-5	DFSA	29.0	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-35	05/02/2019	320-49940-5	MMF	9.0	UG/L	PQL		3.6	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	DFSA	20.0	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Quality review criteria exceeded between the REP (laboratory replicate) and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-32	05/03/2019	320-49940-2	DFSA	42.0	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	MMF	12.0	UG/L	PQL		3.6	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-31	05/03/2019	320-49945-1	DFSA	15.0	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	MMF	8.0	UG/L	PQL		3.6	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded by a factor of 2. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PMPA	0.016	UG/L	PQL		0.010	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PMPA	0.017	UG/L	PQL		0.010	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFESA-BP2	0.54	ug/L	PQL		0.030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFESA-BP2	0.56	ug/L	PQL		0.030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	Hydro-EVE Acid	0.081	UG/L	PQL		0.028	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	Hydro-EVE Acid	0.08	UG/L	PQL		0.028	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	R-EVE	0.21	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	R-EVE	0.21	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	Byproduct 5	1.5	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	Byproduct 5	1.5	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	Byproduct 6	0.016	UG/L	PQL		0.015	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	Byproduct 6	0.016	UG/L	PQL		0.015	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PPF Acid	24	UG/L	PQL		0.38	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PPF Acid	23.0	UG/L	PQL		0.38	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PMPA	6.8	UG/L	PQL		0.57	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PMPA	6.7	UG/L	PQL		0.57	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFO2HxA	27	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFO2HxA	27.0	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFO3OA	6.1	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFO3OA	6.2	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFO4DA	1.5	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFO4DA	1.4	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFO5DA	0.36	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFO5DA	0.37	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PEPA	2.8	UG/L	PQL		0.047	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PEPA	2.7	UG/L	PQL		0.047	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFESA-BP1	0.041	UG/L	PQL		0.027	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	PFESA-BP1	0.041	UG/L	PQL		0.027	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	NVHOS	1.5	UG/L	PQL		0.054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36-D	05/02/2019	320-49940-7	NVHOS	1.5	UG/L	PQL		0.054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Posttreat4-05072019	05/09/2019	320-50147-5	DFSA	4.8	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat4-05072019	05/09/2019	320-50147-5	DFSA	4.6	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat4-05072019	05/09/2019	320-50147-5	PFMOAA	0.73	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat4-05072019	05/09/2019	320-50147-5	PFMOAA	0.77	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat3-05072019	05/09/2019	320-50147-4	DFSA	3.8	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat3-05072019	05/09/2019	320-50147-4	DFSA	3.4	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat2-05072019	05/09/2019	320-50147-3	DFSA	3.9	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat2-05072019	05/09/2019	320-50147-3	DFSA	3.8	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat2-05072019	05/09/2019	320-50147-3	PFMOAA	1.00	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat2-05072019	05/09/2019	320-50147-3	PFMOAA	0.92	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFMOAA	0.22	ug/L	PQL		0.0050	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat10-0725201	05/14/2019	320-52699-1	PFMOAA	0.24	ug/L	PQL		0.0050	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat1-05072019	05/09/2019	320-50147-2	PFMOAA	2.8	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat1-05072019	05/09/2019	320-50147-2	PFMOAA	2.5	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat8-05072019	05/09/2019	320-50147-9	DFSA	6.8	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat8-05072019	05/09/2019	320-50147-9	DFSA	6.9	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Posttreat8-05072019	05/09/2019	320-50147-9	PFMOAA	0.47	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat8-05072019	05/09/2019	320-50147-9	PFMOAA	0.45	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat7-05072019	05/09/2019	320-50147-8	DFSA	7.0	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat7-05072019	05/09/2019	320-50147-8	DFSA	7.6	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat7-05072019	05/09/2019	320-50147-8	PFMOAA	0.38	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat7-05072019	05/09/2019	320-50147-8	PFMOAA	0.35	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat6-05072019	05/09/2019	320-50147-7	DFSA	6.2	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat6-05072019	05/09/2019	320-50147-7	DFSA	6.4	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat5-05072019	05/09/2019	320-50147-6	DFSA	4.7	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat5-05072019	05/09/2019	320-50147-6	DFSA	4.9	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat5-05072019	05/09/2019	320-50147-6	PFMOAA	1.0	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	DFSA	6.7	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	DFSA	7.0	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PFMOAA	9.5	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PFMOAA	9.5	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	PFMOAA	98	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-36	05/02/2019	320-49940-6	PFMOAA	91.0	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method SOP	Pre-prep	Prep
GW0519-MW-35	05/02/2019	320-49940-5	MTP	0.44	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-35	05/02/2019	320-49940-5	MTP	0.42	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-35	05/02/2019	320-49940-5	DFSA	38	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-34	05/02/2019	320-49940-4	PPF Acid	25	UG/L	PQL		0.38	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-34	05/02/2019	320-49940-4	PPF Acid	26.0	UG/L	PQL		0.38	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-34	05/02/2019	320-49940-4	MTP	0.69	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-34	05/02/2019	320-49940-4	MTP	0.66	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	DFSA	3.1	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	MTP	0.26	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	MTP	0.28	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	PFMOAA	40	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-33	05/02/2019	320-49940-3	PFMOAA	42.0	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	PFMOAA	9.1	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	PFMOAA	9.5	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	PFO2HxA	24	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	PFO2HxA	25.0	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-MW-31	05/03/2019	320-49945-1	DFSA	11	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	MTP	0.64	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	MTP	0.69	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the rejection level. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
FAY-PS2019-Posttreat3-05072019	05/09/2019	320-50147-4	PFMOAA	1.4	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat6-05072019	05/09/2019	320-50147-7	PFMOAA	0.59	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat6-05072019	05/09/2019	320-50147-7	PFMOAA	0.59	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	PFMOAA	0.46	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Posttreat9-05072019	05/09/2019	320-50147-10	PFMOAA	0.44	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PPF Acid	0.66	UG/L	PQL		0.38	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat1-05072019	05/09/2019	320-50147-11	PPF Acid	0.6	UG/L	PQL		0.38	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	PPF Acid	0.65	UG/L	PQL		0.38	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
FAY-PS2019-Pretreat2-05072019	05/09/2019	320-50147-12	PPF Acid	0.69	UG/L	PQL		0.38	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-34	05/02/2019	320-49940-4	PFMOAA	111	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-34	05/02/2019	320-49940-4	PFMOAA	120.0	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	DFSA	23	UG/L	PQL		3.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	PFMOAA	121	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0519-MW-32	05/03/2019	320-49940-2	PFMOAA	120.0	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Pilot Study **Validation Options:** LABSTATS

Validation Reason The result is estimated since the concentration is between the method detection limit and practical quantitation limit.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0519-EQBLK-1	05/02/2019	280-123591-9	Chloroform	0.41	UG/L	MDL	0.16	1.0	J	8260B		5030B
GW0519-EQBLK-1	05/02/2019	280-123591-9	Carbon	0.16	MG/L	MDL	0.16	1.0	J	9060		
GW0519-EQBLK-1	05/02/2019	280-123591-9	Carbon Disulfide	0.45	UG/L	MDL	0.17	2.0	J	8260B		5030B
GW0519-EQBLK-1	05/02/2019	280-123591-9	1,2-Dibromo-3-Chloropropane	1.1	UG/L	MDL	0.47	5.0	J	8260B		5030B
GW0519-MW-31	05/03/2019	280-123591-20	1,2-Dichloroethane	0.18	UG/L	MDL	0.13	1.0	J	8260B		5030B
GW0519-MW-36-D	05/02/2019	280-123591-7	1,2-Dichloroethane	0.15	UG/L	MDL	0.13	1.0	J	8260B		5030B
GW0519-PZ-32	05/03/2019	280-123591-14	1,2-Dichloroethane	0.14	UG/L	MDL	0.13	1.0	J	8260B		5030B

ADQM DATA REVIEW
NARRATIVE

Site **Chemours FAY – Fayetteville**

Project **Regenesis Phase 1 Post 6/19**

Project Reviewer **Michael Aucoin, AECOM as a Chemours contractor**

Sampling Dates **June 18, 2019**
June 19, 2019

Analytical Protocol

Laboratory	Analytical Method	Parameter(s)
TestAmerica - Sacramento	537 Modified	PFAS[1]
TestAmerica - Sacramento	Cl. Spec. Table 3 Compound SOP	Table 3+ compounds
TestAmerica - Denver	8260B	Volatile Organics
TestAmerica - Denver	6010D	Calcium, total and dissolved
TestAmerica - Denver	2340 C-1997	Total Hardness as CaCO3
TestAmerica - Denver	9060	Total Organic Carbon
TestAmerica - Denver	9060	Dissolved Organic Carbon

[1] Perfluoroalkylsubstances, a list of 33 compounds including HFPO-DA.

Sample Receipt

The following items are noted for this data set:

- All samples were received in satisfactory condition and within EPA temperature guideline on June 20, 2019

Data Review

The electronic data submitted for this project was reviewed via the Data Verification Module (DVM) process.

Overall the data is acceptable for use without qualification, except as noted below:

- Results for acetone in one sample was qualified B and the reported result may be biased high, or a false positive, due to a comparable concentration found in anassociated equipment blank.
- Several analytical results have been qualified J as estimated, and non-detect results qualified UJ indicating an estimated reporting limit, due to a poor or very poor surrogate or matrix spike recovery; sample analysis which exceeded the laboratory established hold time; and poor field duplicate or lab replicate precision. Volatile organic results reported between the method detection limit (MDL) and practical quantitation limit (PQL) were qualified J as estimated. See

the Data Verification Module (DVM) Narrative Report for which samples were qualified, the specific reasons for qualification, and potential bias in reported results.

Attachments

The DVM Narrative report is attached. The lab reports due to a large page count are stored on an AECOM network shared drive and are available to be posted on external shared drives, or on a flash drive.

Data Verification Module (DVM)

The DVM is an internal review process used by the ADQM group to assist with the determination of data usability. The electronic data deliverables received from the laboratory are loaded into the Locus EIM™ database and processed through a series of data quality checks, which are a combination of software (Locus EIM™ database Data Verification Module (DVM)) and manual reviewer evaluations. The data is evaluated against the following data usability checks:

- Field and laboratory blank contamination
- US EPA hold time criteria
- Missing Quality Control (QC) samples
- Matrix spike(MS)/matrix spike duplicate (MSD) recoveries and the relative percent differences (RPDs) between these spikes
- Laboratory control sample(LCS)/control sample duplicate (LCSD) recoveries and the RPD between these spikes
- Surrogate spike recoveries for organic analyses
- RPD between field duplicate sample pairs
- RPD between laboratory replicates for inorganic analyses
- Difference / percent difference between total and dissolved sample pairs.

There are two qualifier fields in EIM:

Lab Qualifier is the qualifier assigned by the lab and may not reflect the usability of the data. This qualifier may have many different meanings and can vary between labs and over time within the same lab. Please refer to the laboratory report for a description of the lab qualifiers. As they are lab descriptors they are not to be used when evaluating the data.

Validation Qualifier is the 3rd party formal validation qualifier if this was performed. Otherwise this field contains the qualifier resulting from the ADQM DVM review process. This qualifier assesses the usability of the data and may not equal the lab qualifier. The DVM applies the following data evaluation qualifiers to analysis results, as warranted:

Qualifier	Definition
B	Not detected substantially above the level reported in the laboratory or field blanks.
R	Unusable result. Analyte may or may not be present in the sample.
J	Analyte present. Reported value may not be accurate or precise.
UJ	Not detected. Reporting limit may not be accurate or precise.

The **Validation Status Code** field is set to "DVM" if the ADQM DVM process has been performed. If the DVM has not been run, the field will be blank.

If the DVM has been run (**Validation Status Code** equals "DVM"), use the **Validation Qualifier.**

DVM Narrative Report

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason Contamination detected in equipment blank(s). Sample result does not differ significantly from the analyte concentration detected in the associated equipment blank(s).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-34-2	06/19/2019	320-51599-1	Acetone	4.1	UG/L	MDL	1.9	10	B	8260B		5030B

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason Only one surrogate has relative percent recovery (RPR) values outside control limits and the parameter is a PFC (Nondetects).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-36	06/18/2019	320-51608-2	Perfluorooctadecanoic acid	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC
GW0619-MW-36	06/18/2019	320-51608-2	Perfluorohexadecanoic acid (PFHxDA)	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-35	06/18/2019	320-51608-1	Byproduct 4	0.016	UG/L	PQL		0.016	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	Byproduct 4	0.016	UG/L	PQL		0.016	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFO3OA	0.0058	ug/L	PQL		0.0058	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFO3OA	0.0058	ug/L	PQL		0.0058	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFO4DA	0.0079	ug/L	PQL		0.0079	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFO4DA	0.0079	ug/L	PQL		0.0079	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFO5DA	0.0034	ug/L	PQL		0.0034	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFO5DA	0.0034	ug/L	PQL		0.0034	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	N-ethylperfluoro-1-octanesulfonamide	0.0037	UG/L	PQL		0.0037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	N-ethylperfluoro-1-octanesulfonamide	0.0037	UG/L	PQL		0.0037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	Byproduct 6	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	Byproduct 6	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	NVHOS	0.0054	UG/L	PQL		0.0054	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	NVHOS	0.0054	UG/L	PQL		0.0054	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PES	0.0046	UG/L	PQL		0.0046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PES	0.0046	UG/L	PQL		0.0046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PMPA	0.057	UG/L	PQL		0.057	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-36	06/18/2019	320-51608-2	PMPA	0.057	UG/L	PQL		0.057	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFECA B	0.0060	UG/L	PQL		0.0060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFECA B	0.0060	UG/L	PQL		0.0060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.0060	ug/L	PQL		0.0060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.0060	ug/L	PQL		0.0060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.011	ug/L	PQL		0.011	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.011	ug/L	PQL		0.011	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PEPA	0.020	UG/L	PQL		0.020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PEPA	0.020	UG/L	PQL		0.020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFESA-BP1	0.0027	UG/L	PQL		0.0027	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFESA-BP1	0.0027	UG/L	PQL		0.0027	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	N-methyl perfluoro-1-octanesulfonamide	0.0035	ug/L	PQL		0.0035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	N-methyl perfluoro-1-octanesulfonamide	0.0035	ug/L	PQL		0.0035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFECA B	0.0060	UG/L	PQL		0.0060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFECA B	0.0060	UG/L	PQL		0.0060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-35	06/18/2019	320-51608-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.0060	ug/L	PQL		0.0060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.0060	ug/L	PQL		0.0060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.011	ug/L	PQL		0.011	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.011	ug/L	PQL		0.011	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFESA-BP1	0.0027	UG/L	PQL		0.0027	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFESA-BP1	0.0027	UG/L	PQL		0.0027	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	N-methyl perfluoro-1-octanesulfonamide	0.0035	ug/L	PQL		0.0035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	N-methyl perfluoro-1-octanesulfonamide	0.0035	ug/L	PQL		0.0035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PES	0.0046	UG/L	PQL		0.0046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PES	0.0046	UG/L	PQL		0.0046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	N-ethylperfluoro-1-octanesulfonamide	0.0037	UG/L	PQL		0.0037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	N-ethylperfluoro-1-octanesulfonamide	0.0037	UG/L	PQL		0.0037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	EVE Acid	0.0024	UG/L	PQL		0.0024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	EVE Acid	0.0024	UG/L	PQL		0.0024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	Hydro-EVE Acid	0.0028	UG/L	PQL		0.0028	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-35	06/18/2019	320-51608-1	Hydro-EVE Acid	0.0028	UG/L	PQL		0.0028	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFECA-G	0.0041	UG/L	PQL		0.0041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFECA-G	0.0041	UG/L	PQL		0.0041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFESA-BP1	0.053	UG/L	PQL		0.053	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFESA-BP1	0.053	UG/L	PQL		0.053	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	N-methyl perfluoro-1-octanesulfonamide	0.069	ug/L	PQL		0.069	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	N-methyl perfluoro-1-octanesulfonamide	0.069	ug/L	PQL		0.069	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PES	0.092	UG/L	PQL		0.092	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PES	0.092	UG/L	PQL		0.092	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	N-ethylperfluoro-1-octanesulfonamide	0.075	UG/L	PQL		0.075	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	N-ethylperfluoro-1-octanesulfonamide	0.075	UG/L	PQL		0.075	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	Hydro-EVE Acid	0.056	UG/L	PQL		0.056	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	Hydro-EVE Acid	0.056	UG/L	PQL		0.056	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFECA-G	0.082	UG/L	PQL		0.082	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFECA-G	0.082	UG/L	PQL		0.082	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	R-EVE	0.14	UG/L	PQL		0.14	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	R-EVE	0.14	UG/L	PQL		0.14	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-33D	06/18/2019	320-51609-4	Byproduct 4	0.32	UG/L	PQL		0.32	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	Byproduct 4	0.32	UG/L	PQL		0.32	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	EVE Acid	0.049	UG/L	PQL		0.049	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	EVE Acid	0.049	UG/L	PQL		0.049	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	Byproduct 6	0.031	UG/L	PQL		0.031	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	Byproduct 6	0.031	UG/L	PQL		0.031	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PES	0.046	UG/L	PQL		0.046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PES	0.046	UG/L	PQL		0.046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PMPA	0.57	UG/L	PQL		0.57	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PMPA	0.57	UG/L	PQL		0.57	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFECA B	0.060	UG/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFECA B	0.060	UG/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.060	ug/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.060	ug/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.11	ug/L	PQL		0.11	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	2-(N-methyl perfluoro-1-	0.11	ug/L	PQL		0.11	UJ	Cl. Spec. Table 3 Compound		PFAS_DI_Prep

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			octanesulfonamido)-ethanol							SOP		
GW0619-MW-34-2	06/19/2019	320-51607-1	PFESA-BP1	0.027	UG/L	PQL		0.027	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFESA-BP1	0.027	UG/L	PQL		0.027	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	EVE Acid	0.024	UG/L	PQL		0.024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	EVE Acid	0.024	UG/L	PQL		0.024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFESA-BP2	0.030	ug/L	PQL		0.030	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFESA-BP2	0.030	ug/L	PQL		0.030	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	Hydro-EVE Acid	0.028	UG/L	PQL		0.028	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	Hydro-EVE Acid	0.028	UG/L	PQL		0.028	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFECA-G	0.041	UG/L	PQL		0.041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFECA-G	0.041	UG/L	PQL		0.041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	R-EVE	0.070	UG/L	PQL		0.070	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	R-EVE	0.070	UG/L	PQL		0.070	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	Byproduct 4	0.16	UG/L	PQL		0.16	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	Byproduct 4	0.16	UG/L	PQL		0.16	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFO4DA	0.079	ug/L	PQL		0.079	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFO4DA	0.079	ug/L	PQL		0.079	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFO5DA	0.034	ug/L	PQL		0.034	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFO5DA	0.034	ug/L	PQL		0.034	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	Byproduct 6	0.015	UG/L	PQL		0.015	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	Byproduct 6	0.015	UG/L	PQL		0.015	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFECA B	0.060	UG/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFECA B	0.060	UG/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.060	ug/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.060	ug/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.11	ug/L	PQL		0.11	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.11	ug/L	PQL		0.11	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-31	06/18/2019	320-51609-1	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PES	0.046	UG/L	PQL		0.046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PES	0.046	UG/L	PQL		0.046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFECA-G	0.041	UG/L	PQL		0.041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFECA-G	0.041	UG/L	PQL		0.041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	EVE Acid	0.024	UG/L	PQL		0.024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	EVE Acid	0.024	UG/L	PQL		0.024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	Byproduct 6	0.015	UG/L	PQL		0.015	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	Byproduct 6	0.015	UG/L	PQL		0.015	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFECA B	0.060	UG/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFECA B	0.060	UG/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.060	ug/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.060	ug/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	2-(N-methyl perfluoro-1-octanesulfonamido)-	0.11	ug/L	PQL		0.11	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			ethanol									
GW0619-MW-32	06/18/2019	320-51609-2	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.11	ug/L	PQL		0.11	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PES	0.046	UG/L	PQL		0.046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PES	0.046	UG/L	PQL		0.046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFECA-G	0.041	UG/L	PQL		0.041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFECA-G	0.041	UG/L	PQL		0.041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFECA B	0.060	UG/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFECA B	0.060	UG/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.060	ug/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.060	ug/L	PQL		0.060	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.11	ug/L	PQL		0.11	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	2-(N-methyl perfluoro-1-	0.11	ug/L	PQL		0.11	UJ	Cl. Spec. Table 3 Compound		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			octanesulfonamido)-ethanol							SOP		
GW0619-MW-33	06/18/2019	320-51609-3	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	N-methyl perfluoro-1-octanesulfonamide	0.035	ug/L	PQL		0.035	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PES	0.046	UG/L	PQL		0.046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PES	0.046	UG/L	PQL		0.046	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	N-ethylperfluoro-1-octanesulfonamide	0.037	UG/L	PQL		0.037	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFECA-G	0.041	UG/L	PQL		0.041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFECA-G	0.041	UG/L	PQL		0.041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	EVE Acid	0.024	UG/L	PQL		0.024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	EVE Acid	0.024	UG/L	PQL		0.024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	Byproduct 6	0.015	UG/L	PQL		0.015	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	Byproduct 6	0.015	UG/L	PQL		0.015	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFECA B	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFECA B	0.12	UG/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.12	ug/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	2-(N-ethyl perfluoro-1-	0.12	ug/L	PQL		0.12	UJ	Cl. Spec. Table 3 Compound		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
			octanesulfonamido)-ethanol							SOP		
GW0619-MW-33D	06/18/2019	320-51609-4	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.22	ug/L	PQL		0.22	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.22	ug/L	PQL		0.22	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFESA-BP2	0.0030	ug/L	PQL		0.0030	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFESA-BP2	0.0030	ug/L	PQL		0.0030	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	Hydro-EVE Acid	0.0028	UG/L	PQL		0.0028	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	Hydro-EVE Acid	0.0028	UG/L	PQL		0.0028	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFECA-G	0.0041	UG/L	PQL		0.0041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFECA-G	0.0041	UG/L	PQL		0.0041	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	R-EVE	0.0070	UG/L	PQL		0.0070	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	R-EVE	0.0070	UG/L	PQL		0.0070	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	Byproduct 4	0.016	UG/L	PQL		0.016	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	Byproduct 4	0.016	UG/L	PQL		0.016	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	Byproduct 5	0.0058	UG/L	PQL		0.0058	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	Byproduct 5	0.0058	UG/L	PQL		0.0058	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	Byproduct 6	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-36	06/18/2019	320-51608-2	Byproduct 6	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	NVHOS	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	NVHOS	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PES	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PES	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PMPA	0.010	UG/L	PQL		0.010	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PMPA	0.010	UG/L	PQL		0.010	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFECA B	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFECA B	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	2-(N-ethyl perfluoro-1-octanesulfonamido)-ethanol	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	2-(N-methyl perfluoro-1-octanesulfonamido)-ethanol	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PEPA	0.020	UG/L	PQL		0.020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PEPA	0.020	UG/L	PQL		0.020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFESA-BP1	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFESA-BP1	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	N-methyl perfluoro-1-octanesulfonamide	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	N-methyl perfluoro-1-octanesulfonamide	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFO2HxA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFO2HxA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFO3OA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFO3OA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFO4DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFO4DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFO5DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFO5DA	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	N-ethylperfluoro-1-octanesulfonamide	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	N-ethylperfluoro-1-octanesulfonamide	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFMOAA	0.0050	ug/L	PQL		0.0050	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFMOAA	0.0050	ug/L	PQL		0.0050	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	EVE Acid	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reporting limit may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-EB	06/18/2019	320-51607-2	EVE Acid	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFESA-BP2	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFESA-BP2	0.0020	ug/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	Hydro-EVE Acid	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	Hydro-EVE Acid	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFECA-G	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	PFECA-G	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	R-EVE	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	R-EVE	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	Byproduct 4	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	Byproduct 4	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	Byproduct 5	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	Byproduct 5	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	Byproduct 6	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-EB	06/18/2019	320-51607-2	Byproduct 6	0.0020	UG/L	PQL		0.0020	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	EVE Acid	0.0024	UG/L	PQL		0.0024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	EVE Acid	0.0024	UG/L	PQL		0.0024	UJ	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason One or more surrogates had relative percent recovery (RPR) values less than the data rejection level. The reported non-detect result is considered to be an estimated value.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-35	06/18/2019	320-51608-1	Perfluorooctane Sulfonamide	0.0044	UG/L	PQL		0.0044	UJ	537 Modified		3535_PFC

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason High relative percent difference (RPD) observed between field duplicate and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFO5DA	0.20	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFO5DA	0.18	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFO5DA	0.22	ug/L	PQL		0.067	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason Quality review criteria exceeded between the REP (laboratory replicate) and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFMOAA	75	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFMOAA	65.0	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFO4DA	0.75	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFO4DA	0.85	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFO4DA	1.5	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFO4DA	1.7	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PEPA	0.85	UG/L	PQL		0.093	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PEPA	0.82	UG/L	PQL		0.093	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	NVHOS	0.86	UG/L	PQL		0.11	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	NVHOS	0.86	UG/L	PQL		0.11	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFESA-BP2	0.31	ug/L	PQL		0.030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFESA-BP2	0.28	ug/L	PQL		0.030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	Hydro-EVE Acid	0.044	UG/L	PQL		0.028	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	Hydro-EVE Acid	0.04	UG/L	PQL		0.028	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	R-EVE	0.070	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	R-EVE	0.078	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	Byproduct 4	0.27	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	Byproduct 4	0.29	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	Byproduct 5	0.67	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	Byproduct 5	0.65	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PMPA	2.0	UG/L	PQL		0.57	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PMPA	1.8	UG/L	PQL		0.57	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFO2HxA	14	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFO2HxA	13.0	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFO3OA	3.3	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFO3OA	3.1	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PEPA	0.84	UG/L	PQL		0.047	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PEPA	0.76	UG/L	PQL		0.047	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFESA-BP1	0.034	UG/L	PQL		0.027	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	PFESA-BP1	0.033	UG/L	PQL		0.027	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	R-EVE	0.089	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	R-EVE	0.098	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	Byproduct 4	0.44	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	Byproduct 4	0.46	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	Byproduct 5	1.2	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	Byproduct 5	1.2	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	Byproduct 6	0.017	UG/L	PQL		0.015	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	Byproduct 6	0.017	UG/L	PQL		0.015	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	NVHOS	0.88	UG/L	PQL		0.054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33	06/18/2019	320-51609-3	NVHOS	0.81	UG/L	PQL		0.054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFMOAA	146	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFMOAA	140.0	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	EVE Acid	0.025	UG/L	PQL		0.024	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	EVE Acid	0.026	UG/L	PQL		0.024	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFESA-BP2	0.51	ug/L	PQL		0.030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFESA-BP2	0.5	ug/L	PQL		0.030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	Hydro-EVE Acid	0.081	UG/L	PQL		0.028	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	Hydro-EVE Acid	0.078	UG/L	PQL		0.028	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	NVHOS	0.76	UG/L	PQL		0.054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	NVHOS	0.77	UG/L	PQL		0.054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PMPA	2.4	UG/L	PQL		0.57	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PMPA	2.4	UG/L	PQL		0.57	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFO2HxA	27	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFO2HxA	27.0	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFO3OA	6.7	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFO3OA	7.0	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFO5DA	0.33	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFO5DA	0.33	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PEPA	0.99	UG/L	PQL		0.047	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PEPA	0.99	UG/L	PQL		0.047	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFESA-BP1	0.084	UG/L	PQL		0.027	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	PFESA-BP1	0.082	UG/L	PQL		0.027	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	NVHOS	1.6	UG/L	PQL		0.054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-32	06/18/2019	320-51609-2	NVHOS	1.6	UG/L	PQL		0.054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFESA-BP2	0.50	ug/L	PQL		0.030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFESA-BP2	0.48	ug/L	PQL		0.030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	Hydro-EVE Acid	0.064	UG/L	PQL		0.028	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	Hydro-EVE Acid	0.061	UG/L	PQL		0.028	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	R-EVE	0.070	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	R-EVE	0.11	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	Byproduct 4	0.32	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	Byproduct 4	0.37	UG/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	Byproduct 5	0.62	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	Byproduct 5	0.67	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFMOAA	70	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFMOAA	67.0	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PMPA	4.3	UG/L	PQL		0.57	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PMPA	4.2	UG/L	PQL		0.57	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFO2HxA	15	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFO2HxA	15.0	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFO3OA	3.4	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFO3OA	3.6	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFO4DA	0.88	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFO4DA	0.95	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFO5DA	0.40	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFO5DA	0.42	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PEPA	1.8	UG/L	PQL		0.047	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PEPA	1.8	UG/L	PQL		0.047	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFESA-BP1	0.038	UG/L	PQL		0.027	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-31	06/18/2019	320-51609-1	PFESA-BP1	0.027	UG/L	PQL		0.027	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	NVHOS	0.075	UG/L	PQL		0.0054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-35	06/18/2019	320-51608-1	NVHOS	0.075	UG/L	PQL		0.0054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	Byproduct 5	0.16	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	Byproduct 5	0.16	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFO2HxA	7.0	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFO2HxA	7.1	ug/L	PQL		0.081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFO3OA	0.064	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFO3OA	0.068	ug/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PEPA	0.14	UG/L	PQL		0.047	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PEPA	0.13	UG/L	PQL		0.047	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	NVHOS	0.25	UG/L	PQL		0.054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	NVHOS	0.26	UG/L	PQL		0.054	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFESA-BP2	0.28	ug/L	PQL		0.061	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFESA-BP2	0.27	ug/L	PQL		0.061	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	Byproduct 5	0.75	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	Byproduct 5	0.68	UG/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFMOAA	65	ug/L	PQL		0.42	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFMOAA	62.0	ug/L	PQL		0.42	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PMPA	1.6	UG/L	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PMPA	1.5	UG/L	PQL		1.1	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFO2HxA	14	ug/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFO2HxA	14.0	ug/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFO3OA	3.4	ug/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFO3OA	3.3	ug/L	PQL		0.12	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFO4DA	0.84	ug/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFO4DA	0.84	ug/L	PQL		0.16	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-33D	06/18/2019	320-51609-4	PFO5DA	0.2	ug/L	PQL		0.067	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	R-EVE	0.0070	UG/L	PQL		0.0070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	R-EVE	0.0084	UG/L	PQL		0.0070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFESA-BP2	0.0051	ug/L	PQL		0.0030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFESA-BP2	0.005	ug/L	PQL		0.0030	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFMOAA	16	ug/L	PQL		0.021	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFMOAA	16.0	ug/L	PQL		0.021	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PMPA	0.21	UG/L	PQL		0.057	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PMPA	0.21	UG/L	PQL		0.057	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

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Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFO2HxA	1.8	ug/L	PQL		0.0081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFO2HxA	1.8	ug/L	PQL		0.0081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFO3OA	0.053	ug/L	PQL		0.0058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFO3OA	0.053	ug/L	PQL		0.0058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFO4DA	0.017	ug/L	PQL		0.0079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFO4DA	0.017	ug/L	PQL		0.0079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFO5DA	0.0052	ug/L	PQL		0.0034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PFO5DA	0.0052	ug/L	PQL		0.0034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PEPA	0.038	UG/L	PQL		0.020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	PEPA	0.036	UG/L	PQL		0.020	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFO2HxA	0.013	ug/L	PQL		0.0081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFO2HxA	0.014	ug/L	PQL		0.0081	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	Byproduct 5	0.026	UG/L	PQL		0.0058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-35	06/18/2019	320-51608-1	Byproduct 5	0.026	UG/L	PQL		0.0058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFMOAA	68	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-34-2	06/19/2019	320-51607-1	PFMOAA	75.0	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFMOAA	4.9	ug/L	PQL		0.021	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The analysis hold time for this sample was exceeded. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-36	06/18/2019	320-51608-2	PFMOAA	4.9	ug/L	PQL		0.021	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 6/19 **Validation Options:** LABSTATS

Validation Reason The result is estimated since the concentration is between the method detection limit and practical quantitation limit.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0619-MW-36	06/18/2019	320-51600-2	Chloroform	0.16	UG/L	MDL	0.16	1.0	J	8260B		5030B
GW0619-MW-32	06/18/2019	320-51605-2	Chloroform	0.36	UG/L	MDL	0.16	1.0	J	8260B		5030B
GW0619-MW-36	06/18/2019	320-51600-2	Methyl Chloride	0.41	UG/L	MDL	0.30	2.0	J	8260B		5030B
GW0619-MW-EB	06/18/2019	320-51599-2	Ortho-Xylene	0.24	UG/L	MDL	0.19	1.0	J	8260B		5030B
GW0619-MW-EB	06/18/2019	320-51599-2	Meta- And Para-Xylene	0.20	UG/L	MDL	0.15	2.0	J	8260B		5030B
GW0619-MW-EB	06/18/2019	320-51599-2	Chloroform	0.19	UG/L	MDL	0.16	1.0	J	8260B		5030B
GW0619-MW-EB	06/18/2019	320-51599-2	Xylenes	0.44	UG/L	MDL	0.19	2.0	J	8260B		5030B

ADQM DATA REVIEW
NARRATIVE

Site **Chemours FAY – Fayetteville**

Project **Regenesis Phase 1 Post 7/19**

Project Reviewer **Michael Aucoin, AECOM as a Chemours contractor**

Sampling Dates **July 17, 2019**
July 18, 2019

Analytical Protocol

Laboratory	Analytical Method	Parameter(s)
TestAmerica - Sacramento	537 Modified	PFAS[1]
TestAmerica - Sacramento	Cl. Spec. Table 3 Compound SOP	Table 3+ compounds
TestAmerica - Denver	8260B	Volatile Organics
TestAmerica - Denver	6010D	Calcium, total and dissolved
TestAmerica - Denver	2340 C-1997	Total Hardness as CaCO3
TestAmerica - Denver	9060	Total Organic Carbon
TestAmerica - Denver	9060	Dissolved Organic Carbon

[1] Perfluoroalkylsubstances, a list of 33 compounds including HFPO-DA.

Sample Receipt

The following items are noted for this data set:

- All samples were received in satisfactory condition and within EPA temperature guideline on July 19 and 23, 2019

Data Review

The electronic data submitted for this project was reviewed via the Data Verification Module (DVM) process.

Overall the data is acceptable for use without qualification, except as noted below:

- Results for DOC, acetone or toluene in one or more samples were qualified B and the reported result may be biased high, or a false positive, due to a comparable concentration found in an associated equipment blank.
- Analytical results have been qualified J as estimated, and non-detect results qualified UJ indicating an estimated reporting limit, due to a poor matrix spike recovery; and poor field duplicate or lab replicate precision. DOC, calcium, dissolved calcium, and volatile organic results reported between the method detection limit (MDL) and practical quantitation limit (PQL)

were qualified J as estimated. See the Data Verification Module (DVM) Narrative Report for which samples were qualified, the specific reasons for qualification, and potential bias in reported results.

Attachments

The DVM Narrative report is attached. The lab reports due to a large page count are stored on an AECOM network shared drive and are available to be posted on external shared drives, or on a flash drive.

Data Verification Module (DVM)

The DVM is an internal review process used by the ADQM group to assist with the determination of data usability. The electronic data deliverables received from the laboratory are loaded into the Locus EIM™ database and processed through a series of data quality checks, which are a combination of software (Locus EIM™ database Data Verification Module (DVM)) and manual reviewer evaluations. The data is evaluated against the following data usability checks:

- Field and laboratory blank contamination
- US EPA hold time criteria
- Missing Quality Control (QC) samples
- Matrix spike(MS)/matrix spike duplicate (MSD) recoveries and the relative percent differences (RPDs) between these spikes
- Laboratory control sample(LCS)/control sample duplicate (LCSD) recoveries and the RPD between these spikes
- Surrogate spike recoveries for organic analyses
- RPD between field duplicate sample pairs
- RPD between laboratory replicates for inorganic analyses
- Difference / percent difference between total and dissolved sample pairs.

There are two qualifier fields in EIM:

Lab Qualifier is the qualifier assigned by the lab and may not reflect the usability of the data. This qualifier may have many different meanings and can vary between labs and over time within the same lab. Please refer to the laboratory report for a description of the lab qualifiers. As they are lab descriptors they are not to be used when evaluating the data.

Validation Qualifier is the 3rd party formal validation qualifier if this was performed. Otherwise this field contains the qualifier resulting from the ADQM DVM review process. This qualifier assesses the usability of the data and may not equal the lab qualifier. The DVM applies the following data evaluation qualifiers to analysis results, as warranted:

Qualifier	Definition
B	Not detected substantially above the level reported in the laboratory or field blanks.
R	Unusable result. Analyte may or may not be present in the sample.
J	Analyte present. Reported value may not be accurate or precise.
UJ	Not detected. Reporting limit may not be accurate or precise.

The **Validation Status Code** field is set to "DVM" if the ADQM DVM process has been performed. If the DVM has not been run, the field will be blank.

If the DVM has been run (**Validation Status Code** equals "DVM"), use the **Validation Qualifier.**

DVM Narrative Report

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 7/19 **Validation Options:** LABSTATS

Validation Reason Contamination detected in equipment blank(s). Sample result does not differ significantly from the analyte concentration detected in the associated equipment blank(s).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0719-MW-31-Z	07/18/2019	280-126432-5	Dissolved Organic Carbon	2200	UG/L	MDL	350	1000	B	9060		
GW0719-MW-32	07/18/2019	280-126432-2	Acetone	26	UG/L	MDL	1.9	10	B	8260B		5030B
GW0719-MW-33-DZ	07/18/2019	280-126432-10	Dissolved Organic Carbon	1700	UG/L	MDL	350	1000	B	9060		
GW0719-MW-33-Z	07/18/2019	280-126432-7	Dissolved Organic Carbon	2400	UG/L	MDL	350	1000	B	9060		
GW0719-MW-33-D	07/18/2019	280-126432-4	Toluene	0.27	UG/L	MDL	0.17	1.0	B	8260B		5030B

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 7/19 **Validation Options:** LABSTATS

Validation Reason High relative percent difference (RPD) observed between field duplicate and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0719-MW-33-D	07/18/2019	280-126480-4	Hfpo Dimer Acid	1.3	UG/L	PQL		0.14	J	537 Modified		3535_PFC
GW0719-MW-33	07/18/2019	280-126480-3	Hfpo Dimer Acid	0.95	UG/L	PQL		0.14	J	537 Modified		3535_PFC

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 7/19 **Validation Options:** LABSTATS

Validation Reason Quality review criteria exceeded between the REP (laboratory replicate) and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0719-MW-32	07/18/2019	280-126480-2	Hfpo Dimer Acid (trial)	1.7	UG/L	PQL		0.14	J	537 Modified		3535_PFC
GW0719-MW-32	07/18/2019	280-126480-2	Hfpo Dimer Acid	1.7	UG/L	PQL		0.14	J	537 Modified		3535_PFC

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 7/19 **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values less than the lower control limit but above the rejection limit. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0719-MW-33	07/18/2019	280-126432-3	Calcium	5.1	MG/L	MDL	0.078	0.2	J	6010D		3005A

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 7/19 **Validation Options:** LABSTATS

Validation Reason The result is estimated since the concentration is between the method detection limit and practical quantitation limit.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0719-MW-32	07/18/2019	280-126432-2	Chloroform	0.24	UG/L	MDL	0.16	1.0	J	8260B		5030B
GW0719-EQBLK-1	07/18/2019	280-126432-8	Toluene	0.32	UG/L	MDL	0.17	1.0	J	8260B		5030B
GW0719-EQBLK-1	07/18/2019	280-126432-8	Acetone	4.2	UG/L	MDL	1.9	10	J	8260B		5030B
GW0719-EQBLK-1	07/18/2019	280-126432-8	Calcium	0.13	MG/L	MDL	0.078	0.2	J	6010D		3005A
GW0719-EQBLK-1-Z	07/18/2019	280-126432-9	Calcium	0.085	MG/L	MDL	0.078	0.2	J	6010D		3005A
GW0719-EQBLK-1-Z	07/18/2019	280-126432-9	Dissolved Organic Carbon	510	UG/L	MDL	350	1000	J	9060		
GW0719-MW-34	07/18/2019	280-126520-3	Acetone	4.0	UG/L	MDL	1.9	10	J	8260B		5030B
GW0719-MW-35	07/17/2019	280-126520-2	Acetone	5.1	UG/L	MDL	1.9	10	J	8260B		5030B

ADQM DATA REVIEW
NARRATIVE

Site **Chemours FAY – Fayetteville**

Project **Regenesis Phase 1 Post 8/19**

Project Reviewer **Michael Aucoin, AECOM as a Chemours contractor**

Sampling Dates **August 9, 2019**
August 12, 2019

Analytical Protocol

Laboratory	Analytical Method	Parameter(s)
TestAmerica - Sacramento	537 Modified	PFAS[1]
TestAmerica - Sacramento	Cl. Spec. Table 3 Compound SOP	Table 3+ compounds
TestAmerica - Denver	8260B	Volatile Organics
TestAmerica - Denver	6010D	Calcium, total and dissolved
TestAmerica - Denver	2340 C-1997	Total Hardness as CaCO3
TestAmerica - Denver	9060	Total Organic Carbon
TestAmerica - Denver	9060	Dissolved Organic Carbon

[1] Perfluoroalkylsubstances, a list of 33 compounds including HFPO-DA.

Sample Receipt

The following items are noted for this data set:

- All samples were received in satisfactory condition and within EPA temperature guideline on August 10 and 13, 2019

Data Review

The electronic data submitted for this project was reviewed via the Data Verification Module (DVM) process.

Overall the data is acceptable for use without qualification, except as noted below:

- Results for DOC or volatile organics in one or more samples were qualified B and the reported result may be biased high, or a false positive, due to a comparable concentration found in an associated equipment blank, trip blank, or lab method blank.
- Analytical results have been qualified J as estimated, and non-detect results qualified UJ indicating an estimated reporting limit, due to a poor or very poor surrogate, lab blank spike, or matrix spike recovery; and poor field duplicate or lab replicate precision. TOC, DOC, and volatile organic results reported between the method detection limit (MDL) and practical

quantitation limit (PQL) were qualified J as estimated. See the Data Verification Module (DVM) Narrative Report for which samples were qualified, the specific reasons for qualification, and potential bias in reported results.

Attachments

The DVM Narrative report is attached. The lab reports due to a large page count are stored on an AECOM network shared drive and are available to be posted on external shared drives, or on a flash drive.

Data Verification Module (DVM)

The DVM is an internal review process used by the ADQM group to assist with the determination of data usability. The electronic data deliverables received from the laboratory are loaded into the Locus EIM™ database and processed through a series of data quality checks, which are a combination of software (Locus EIM™ database Data Verification Module (DVM)) and manual reviewer evaluations. The data is evaluated against the following data usability checks:

- Field and laboratory blank contamination
- US EPA hold time criteria
- Missing Quality Control (QC) samples
- Matrix spike(MS)/matrix spike duplicate (MSD) recoveries and the relative percent differences (RPDs) between these spikes
- Laboratory control sample(LCS)/control sample duplicate (LCSD) recoveries and the RPD between these spikes
- Surrogate spike recoveries for organic analyses
- RPD between field duplicate sample pairs
- RPD between laboratory replicates for inorganic analyses
- Difference / percent difference between total and dissolved sample pairs.

There are two qualifier fields in EIM:

Lab Qualifier is the qualifier assigned by the lab and may not reflect the usability of the data. This qualifier may have many different meanings and can vary between labs and over time within the same lab. Please refer to the laboratory report for a description of the lab qualifiers. As they are lab descriptors they are not to be used when evaluating the data.

Validation Qualifier is the 3rd party formal validation qualifier if this was performed. Otherwise this field contains the qualifier resulting from the ADQM DVM review process. This qualifier assesses the usability of the data and may not equal the lab qualifier. The DVM applies the following data evaluation qualifiers to analysis results, as warranted:

Qualifier	Definition
B	Not detected substantially above the level reported in the laboratory or field blanks.
R	Unusable result. Analyte may or may not be present in the sample.
J	Analyte present. Reported value may not be accurate or precise.
UJ	Not detected. Reporting limit may not be accurate or precise.

The **Validation Status Code** field is set to "DVM" if the ADQM DVM process has been performed. If the DVM has not been run, the field will be blank.

If the DVM has been run (**Validation Status Code** equals "DVM"), use the **Validation Qualifier.**

DVM Narrative Report

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 8/19 **Validation Options:** LABSTATS

Validation Reason Contamination detected in equipment blank(s). Sample result does not differ significantly from the analyte concentration detected in the associated equipment blank(s).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0819-MW-34-D-Z	08/09/2019	320-53194-12	Dissolved Organic Carbon	1600	UG/L	MDL	350	1000	B	9060		
GW0819-MW-34-Z	08/09/2019	320-53194-9	Dissolved Organic Carbon	1400	UG/L	MDL	350	1000	B	9060		

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 8/19 **Validation Options:** LABSTATS

Validation Reason Contamination detected in Method Blank(s). Sample result does not differ significantly from the analyte concentration detected in the associated method blank(s).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0819-MW-36	08/09/2019	320-53194-1	Acetone	11	UG/L	MDL	1.9	10	B	8260B		5030B
GW0819-MW-32	08/09/2019	320-53194-4	Acetone	5.1	UG/L	MDL	1.9	10	B	8260B		5030B

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 8/19 **Validation Options:** LABSTATS

Validation Reason Contamination detected in trip blank(s). Sample result does not differ significantly from the analyte concentration detected in the associated trip blank(s).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0819-MW-31	08/12/2019	320-53237-1	Xylenes	0.33	UG/L	MDL	0.19	2.0	B	8260B		5030B
GW0819-MW-31	08/12/2019	320-53237-1	Meta- And Para-Xylene	0.33	UG/L	MDL	0.15	2.0	B	8260B		5030B
GW0819-MW-33	08/12/2019	320-53237-2	Xylenes	0.31	UG/L	MDL	0.19	2.0	B	8260B		5030B
GW0819-MW-33	08/12/2019	320-53237-2	Meta- And Para-Xylene	0.31	UG/L	MDL	0.15	2.0	B	8260B		5030B

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 8/19 **Validation Options:** LABSTATS

Validation Reason Only one surrogate has relative percent recovery (RPR) values outside control limits and the parameter is a PFC (Nondetects).

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0819-MW-35	08/09/2019	320-53191-2	Perfluorooctadecanoic acid	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC
GW0819-MW-35	08/09/2019	320-53191-2	Perfluorohexadecanoic acid (PFHxDA)	0.0020	ug/L	PQL		0.0020	UJ	537 Modified		3535_PFC
GW0819-MW-36	08/09/2019	320-53191-1	Perfluorooctane Sulfonamide	0.0020	UG/L	PQL		0.0020	UJ	537 Modified		3535_PFC
GW0819-MW-34-D	08/09/2019	320-53191-6	Perfluorooctane Sulfonamide	0.0020	UG/L	PQL		0.0020	UJ	537 Modified		3535_PFC

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 8/19 **Validation Options:** LABSTATS

Validation Reason Associated LCS and/or LCSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0819-MW-35	08/09/2019	320-53191-2	Byproduct 5	0.058	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-35	08/09/2019	320-53191-2	Byproduct 5	0.069	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 8/19 **Validation Options:** LABSTATS

Validation Reason Associated MS and/or MSD analysis had relative percent recovery (RPR) values higher than the upper control limit. The reported result may be biased high.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0819-MW-35	08/09/2019	320-53191-2	PFMOAA	49	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-35	08/09/2019	320-53191-2	PFMOAA	49.0	ug/L	PQL		0.21	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-32	08/09/2019	320-53191-4	R-EVE	0.084	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-32	08/09/2019	320-53191-4	R-EVE	0.075	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-32	08/09/2019	320-53191-4	Byproduct 5	1.2	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-32	08/09/2019	320-53191-4	Byproduct 5	1.2	UG/L	PQL		0.058	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-32	08/09/2019	320-53191-4	PFO4DA	0.93	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-32	08/09/2019	320-53191-4	PFO4DA	0.88	ug/L	PQL		0.079	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-32	08/09/2019	320-53191-4	PFO5DA	0.23	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-32	08/09/2019	320-53191-4	PFO5DA	0.22	ug/L	PQL		0.034	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 8/19 **Validation Options:** LABSTATS

Validation Reason High relative percent difference (RPD) observed between field duplicate and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0819-MW-34-D	08/09/2019	320-53194-11	Total Hardness As CaCO3	18	MG/L	MDL	0.30	3.0	J	2340 C-1997		
GW0819-MW-34	08/09/2019	320-53194-3	Total Hardness As CaCO3	30	MG/L	MDL	0.30	3.0	J	2340 C-1997		

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 8/19 **Validation Options:** LABSTATS

Validation Reason Quality review criteria exceeded between the REP (laboratory replicate) and parent sample. The reported result may be imprecise.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0819-MW-35	08/09/2019	320-53194-2	Total Hardness As CaCO3	150	MG/L	MDL	1.2	12	J	2340 C-1997		
GW0819-MW-31	08/12/2019	320-53233-1	R-EVE	0.18	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-31	08/12/2019	320-53233-1	R-EVE	0.25	UG/L	PQL		0.070	J	Cl. Spec. Table 3 Compound SOP		PFAS_DI_Prep
GW0819-MW-32	08/09/2019	320-53194-4	Total Hardness As CaCO3	88	MG/L	MDL	0.30	3.0	J	2340 C-1997		

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 8/19 **Validation Options:** LABSTATS

Validation Reason One or more surrogates had relative percent recovery (RPR) values less than the data rejection level. The reported result may be biased low.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0819-MW-35	08/09/2019	320-53191-2	Perfluorooctane Sulfonamide	0.0034	UG/L	PQL		0.0020	J	537 Modified		3535_PFC

Site: Fayetteville **Sampling Program:** Regenesis Phase 1 Post 8/19 **Validation Options:** LABSTATS

Validation Reason The result is estimated since the concentration is between the method detection limit and practical quantitation limit.

Field Sample ID	Date Sampled	Lab Sample ID	Analyte	Result	Units	Type	MDL	PQL	Validation Qualifier	Analytical Method	Pre-prep	Prep
GW0819-MW-34	08/09/2019	320-53194-3	Carbon	0.70	MG/L	MDL	0.35	1.0	J	9060		
GW0819-MW-34-D	08/09/2019	320-53194-11	Carbon	0.83	MG/L	MDL	0.35	1.0	J	9060		
GW0819-EQBLK	08/09/2019	320-53194-5	Acetone	7.2	UG/L	MDL	1.9	10	J	8260B		5030B
GW0819-EQBLK-Z	08/09/2019	320-53194-6	Dissolved Organic Carbon	380	UG/L	MDL	350	1000	J	9060		
GW0819-MWTBLK-1	08/09/2019	320-53194-13	Acetone	4.9	UG/L	MDL	1.9	10	J	8260B		5030B
GW0819-TBLK2	08/12/2019	320-53237-5	Xylenes	0.29	UG/L	MDL	0.19	2.0	J	8260B		5030B
GW0819-TBLK2	08/12/2019	320-53237-5	Acetone	6.9	UG/L	MDL	1.9	10	J	8260B		5030B
GW0819-TBLK2	08/12/2019	320-53237-5	Meta- And Para-Xylene	0.29	UG/L	MDL	0.15	2.0	J	8260B		5030B
GW0819-MW-36	08/09/2019	320-53194-1	Methyl Bromide	0.30	UG/L	MDL	0.21	2.0	J	8260B		5030B

LABORATORY REPORTS PROVIDED ELECTRONICALLY ON THE ENCLOSED DVD

APPENDIX E
SAMPLING LOGS

Corporate Remediation Group - Field Book

Site: Chemours Event: Reg mis Date: 5/3/19 Time: 1032
Personnel: CM, RL, TS Project Manager: Tracy Ovbey
Well ID: MW-31 Permit No: VO Vapors: PIDIFID BZ: PIDIFID CA:
Weather Conditions: ☐ Clear ☒ Cloudy ☐ Other ☐ Wind: Temp: 82 °F

Well Depth: TS 22 ft LNAPL: — Purge Method: low-flow
Depth to Water: 15.81 ft DNAPL: Purge Start: 1042
Water Column: — Casing Dia: 2" Purge Stop: 1110
Well Vol: — Conv. Factor: — Parameter Collection Time: 1110
Well Vol (3x): Purge Rate: 220ml/min Water Level Stable @: 15.90

Parameters	DTW	1045	1050	1055	1100	1105	Sample	Analysis Time
		15.89	15.89	15.89	15.90	15.90		
pH		5.89	5.84	5.81	5.81	5.82	5.84	
Temperature (°C)		20.27	19.80	19.53	18.97	18.94	18.80	
Specific Conductance (umho)		0.067	0.067	0.066	0.067	0.067	0.066	
Dissolved Oxygen (mg/l)		6.16	4.25	3.72	3.48	3.33	3.13	
Redox (mV)		240	245	253	257	259	261	
Turbidity (ntu)		1.3	1.4	1.3	1.0	1.0	1.0	
Color		Clear	Clear	Clear	Clear	Clear	Clear	
Odor		ND	ND	ND	ND	ND	ND	

Sample Date: 5/3/19 Sample Collection Time: 1115 Sample Method: Grab

Analysis	Volume (ml)	#	Preservative	Zero HS	Comments:
	1100				
DTW	15.90				
~~Temp pH~~	5.84				
temp	18.80				
S. cond	0.066				
DO	3.13				
Redox	261				
NTU	1.0				
Color	Clear				
Odor	ND				

Analyst Name: Charles Pace
Analyst Signature: Date: 5/3/19

20650

Corporate Remediation Group - Field Book

Site: Chemours Event: Date: 5-3-14 Time:
Personnel: CA TS, RL Project Manager: Tracy Ovsey
Well ID: P2-3L Permit No: VO Vapors: PIDIFID BZ: PIDIFID CA:
Weather Conditions: ☐ Clear ☒ Cloudy ☐ Other ☐ Wind: Temp: 85 °F

Well Depth: 18ft LNAPL: — Purge Method: low-flow
Depth to Water: 15.36 DNAPL: — Purge Start: 1201
Water Column: — Casing Dia: — Purge Stop: 1220
Well Vol: — Conv. Factor: — Parameter Collection Time: 1220
Well Vol (3x): — Purge Rate: 230 ml/min Water Level Stable @: 15.66

Parameters	1205	1210	1215	1220		Sample	Analysis Time
DTW	15.66	15.62	15.68	15.66			
pH	6.31	6.25	6.20	6.24		6.24	
Temperature (°C)	21.12	20.25	14.97	14.42		14.92	
Specific Conductance (umho)	0.078	0.075	0.025	0.075		0.025	
Dissolved Oxygen (mg/l)	3.64	2.83	2.54	2.68		2.68	
Redox (mV)	235	236	238	233		233	
Turbidity (ntu)	2.1	2.0	2.0	2.4		2.4	
Color	Clear	Clear	Clear	Clear		Clear	
Odor	NO	NO	NO	NO		NO	

Sample Date: 5/3/14 Sample Collection Time: 1225 Sample Method: Grab

Analysis	Volume (ml)	#	Preservative	Zero HS	Comments:

Analyst Name: Charles Pace
Analyst Signature: Date: 5/3/14

20650

Corporate Remediation Group - Field Book

Site: Chemours Event: Date: 5/3/19 Time: 9:00
Personnel: Charles P., Thomas S., Rachel L. Project Manager: Tracy Obrey
Well ID: MW-32 Permit No: VO Vapors: PIDIFID BZ:
PIDIFID CA:
Weather Conditions: ☒ Clear ☐ Cloudy ☐ Other ☐ Wind: Temp: 71 °F

Well Depth: ~~18.83~~ 18.5 LNAPL: — Purge Method: Peristalic Pump
Depth to Water: 14.83 DNAPL: — Purge Start: 0907
Water Column: — Casing Dia: 2 in Purge Stop: 0930
Well Vol: — Conv. Factor: — Parameter Collection Time: 0930
Well Vol (3x): — Purge Rate: 225 ml/min Water Level Stable @: 14.96

Parameters DTW	0910 14.96	0915 14.96	0920 14.96	0925 14.96	0930 14.96	Sample	Analysis Time
pH	6.17	6.17	6.15	6.13	6.13	6.13	
Temperature (°C)	17.30	17.37	17.40	17.48	17.56	17.56	
Specific Conductance (umho)	0.096	0.043	0.042	0.091	0.090	0.090	
Dissolved Oxygen (mg/l)	1.80	1.01	0.71	0.57	0.47	0.47	
Redox (mV)	247	240	232	225	219	219	
Turbidity (ntu)	53.1	19.3	4.8	3.5	2.6	2.6	
Color	Cloudy	Clear	Clear	Clear	Clear	Clear	
Odor	NO	NO	NO	NO	NO	NO	

Sample Date: 5/3/19 Sample Collection Time: 0935 Sample Method: Grab/low-flow

Analysis	Volume (ml)	#	Preservative	Zero HS	Comments:

Analyst Name: Charles Pace
Analyst Signature: Date: 5/3/19

20650

Corporate Remediation Group - Field Book

Site: FAYETTEVILLE Event: _____ Date: 05/02/19 Time: 1525
Personnel: TO + TS Project Manager: TRACY OUBEY
Well ID: MW-33 Permit No: _____ VO Vapors: PIDFID BZ: _____
PIDFID CA: _____
Weather Conditions: ☒ Clear ☐ Cloudy ☐ Other ☐ Wind: Temp: 85 °F

Well Depth: 17' LNAPL: _____ Purge Method: PERI LOW-FLOW
Depth to Water: 14.30 DNAPL: _____ Purge Start: 1530
Water Column: _____ Casing Dia: 2" Purge Stop: 1620
Well Vol: _____ Conv. Factor: _____ Parameter Collection Time: _____
Well Vol (3x): _____ Purge Rate: 200mL/MIN Water Level Stable @: 14.35

Parameters	1535	1540	1545	1550	1555	Sample	Analysis Time
pH	6.23	5.97	5.92	5.96	5.95		
Temperature (°C)	29.80	20.78	20.79	20.43	20.26		
Specific Conductance (umho)	0.072	0.068	0.068	0.068	0.069		
Dissolved Oxygen (mg/l)	4.20	2.09	1.88	1.76	~~1.8~~ 1.70		
Redox (mV)	206	226	233	236	242		
Turbidity (ntu)	26.5	4.5	4.9	3.7	4.0		
Color	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR		
Odor	N/A	N/A	N/A	N/A	N/A		

Sample Date: 05/02/19 Sample Collection Time: 1600 Sample Method: _____

Analysis	Volume (ml)	#	Preservative	Zero HS	Comments:

Analyst Name: _____
Analyst Signature: _____ Date: _____

20650

Corporate Remediation Group - Field Book

Site: Fayetteville Works Event: Date: 2019-05-02 Time: 1445
Personnel: Matt Scherer / Rachel Little Project Manager: Tracy Orbey
Well ID: MW34 Permit No: VO Vapors: PIDIFID BZ:
PIDIFID CA:
Weather Conditions: ☑ Clear ☑ Cloudy ☐ Other ☑ Wind: 4 mph Temp: 88° °F

Well Depth: 22 Ft LNAPL: Purge Method: Peri. pump
Depth to Water: 15.88 DNAPL: Purge Start: 1450
Water Column: Casing Dia: 2" Purge Stop: 1515
Well Vol: Conv. Factor: Parameter Collection Time:
Well Vol (3x): Purge Rate: 200 mL/min Water Level Stable @: 16.42

Parameters	1500	1505	1510	1515	1520	Sample	Analysis Time
pH	5.14	5.09	5.04	5.02			
Temperature (°C)	20.51	20.58	20.44	20.42			
Specific Conductance (umho)	0.080	0.077	0.077	0.077			
Dissolved Oxygen (mg/l)	0.0	0.0	0.0	0.0			
Redox (mV)	301	317	306	278			
Turbidity (ntu)	5.1	4.7	3.6	2.3			
Color	Clear	Clear	Clear	Clear			
Odor	N/A	N/A	N/A	N/A			

Sample Date: 2019-05-02 Sample Collection Time: 1520 Sample Method: Low Flow
GW0519-MW-34

Analysis	Volume (ml)	#	Preservative	Zero HS	Comments:

Analyst Name:
Analyst Signature: Date:

20650

Corporate Remediation Group - Field Book

Site: FAYETTEVILLE Event: _____ Date: 05/02/19 Time: 1330
Personnel: TO & TS Project Manager: TRACY OVBEY
Well ID: MW-36 Permit No: _____ VO Vapors: PIDIFID BZ: _____
PIDIFID CA: _____
Weather Conditions: ☐ Clear ☐ Cloudy ☐ Other ☐ Wind: Temp: °F

Well Depth: 17 LNAPL: _____ Purge Method: PERI LOW-FLOW
Depth to Water: 15.55 DNAPL: _____ Purge Start: 1345
Water Column: _____ Casing Dia: 2" Purge Stop: 1430
Well Vol: _____ Conv. Factor: _____ Parameter Collection Time: _____
Well Vol (3x): _____ Purge Rate: 200 ml/min Water Level Stable @: 15.65

Parameters	1355	1400	1405	1412	1415	1420 Sample	1425 Analysis Time
pH	6.08	6.08	6.07	6.05	6.04	6.07	~~1355~~ 6.07
Temperature (°C)	20.9 °C	20.60	20.26	20.15	20.13	20.38	20.29
Specific Conductance (umho)	0.082 mS/cm	0.082 mS/cm	0.082	0.083	.55 0.083	0.083	0.084
Dissolved Oxygen (mg/l)	1.01	0.85	~~0.08~~ 0.74	0.65	.55	.53	0.48
Redox (mV)	232	232	233	232	232	231	228
Turbidity (ntu)	7.5	2.5	1.4	0.8	.5	.4	.4
Color	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR	CLEAR
Odor	NA	NA	NA	NA	N/A	N/A	N/A

Sample Date: 05/02/19 Sample Collection Time: 1430 Sample Method: LOW-FLOW

Analysis	Volume (ml)	#	Preservative	Zero HS	Comments:

Analyst Name: _____
Analyst Signature: _____ Date: _____

20650

Corporate Remediation Group - Field Book

Site: Fayetteville Works Event: Date: 2019-05-02 Time: 1330
Personnel: Matt Schrum / Rachel Little Project Manager: Tracy Overbey
Well ID: MW35 Permit No: VO Vapors: PIDFID BZ:
PIDFID CA:
Weather Conditions: ☑ Clear ☑ Cloudy ☐ Other ☑ Wind: 4mph Temp: 86 °F

Well Depth: 19ft LNAPL: Purge Method: Peri pump
Depth to Water: 15.35 DNAPL: Purge Start: 1340
Water Column: Casing Dia: 2" Purge Stop: 1410
Well Vol: Conv. Factor: Parameter Collection Time: 1
Well Vol (3x): Purge Rate: 200mL/min Water Level Stable @: 15.61

Parameters	1345	1350	1355	1400	1405	1410	Analysis Time
pH	5.81	5.70	5.64	5.60	5.59	5.59	
Temperature (°C)	20.19	20.19	19.74	19.64	19.68	19.72	
Specific Conductance (mS/cm)	0.150	0.134	0.121	0.118	0.115	0.116	
Dissolved Oxygen (mg/L) %	0.0	0.0	0.0	0.0	0.0	0.0	
Redox (mV)	270	281	289	293	296	294	
Turbidity (ntu)	2.3	3.2	2.2	1.5	0.9	0.8	
Color	Clear	Clear	Clear	Clear	Clear	Clear	
Odor	N/A	N/A	N/A	N/A	N/A	N/A	

Sample Date: 2019-05-02 Sample Collection Time: 1420 Sample Method: Low Flow
GW0519-MW-35

Analysis	Volume (ml)	#	Preservative	Zero HS	Comments:

Analyst Name:
Analyst Signature: Date:

20650

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-31 | Well Diameter: 2 Inches

Samplers: Charles Pace Luke Tart | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: bottom of well

Method: Peristaltic Pump | Date: 07-18-2019 | Time: 12:46

WATER VOLUME CALCULATION			
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot			
Water Volume =	-2.56		
Initial Depth to Water (ft.):	16	Depth to Well Bottom (ft.):	

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	16.22			6.56	2.39	153.00	15.90	0.15	23.19	Clear	No	
	16.24			6.45	2.23	183.00	1.30	0.15	22.93	Clear	No	
	16.24			6.43	2.13	191.00	0.10	0.15	23.55	Clear	No	
	16.24			6.42	2.02	200.00	0.00	0.15	23.58	Clear	No	

Sampling Data

Zero HS:

Method: Peristaltic Pump | Date: 07-18-2019 | Time: 13:15 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	6.42
Spec. Cond.(mS/cm)	0.15
Turbidity (NTU)	
Temp.(°C)	23.58
DO (mg/L)	2.02
ORP (mV)	200.00

Screen Interval: 17-22

SAMPLE SET				
Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-31

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	96.00
Sky:	Partly Sunny
Precipitation:	None
Wind (mph)	8

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-31 | Well Diameter: 2 Inches

Samplers: CHARLES PACE Thomas Strayhorn | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: bottom of well

Method: Low Flow: Geo Pump | Date: 08-12-2019 | Time: 10:33

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = -2.528

Initial Depth to Water (ft.): 15.8 | Depth to Well Bottom (ft.):

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	15.96			5.93	4.39	186.00	0.00	0.13	24.64	Clear	No	
	16.00			5.97	2.61	190.00	0.00	0.12	24.95	Clear	No	
	16.00			5.99	2.13	192.00	0.00	0.12	24.41	Clear	No	
	16.00			5.98	2.19	196.00	0.00	0.12	24.44	Clear	No	
	16.00			5.98	2.03	200.00	0.00	0.12	24.15	Clear	No	

Sampling Data

Zero HS:

Method: Peristaltic Pump | Date: 08-12-2019 | Time: 11:15 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	5.98
Spec. Cond.(mS/cm)	0.12
Turbidity (NTU)	
Temp.(°C)	24.15
DO (mg/L)	2.03
ORP (mV)	200.00

Screen Interval: 17-22

SAMPLE SET				
Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-31

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	86.00
Sky:	Sunny
Precipitation:	None
Wind (mph)	4

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WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-31 | Well Diameter: 2 Inches

Samplers: Charles Pace Jacob Limpus | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: within screen

Method: Low Flow: Geo Pump | Date: 06-18-2019 | Time: 16:11

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = 0.992

Initial Depth to Water (ft.): 15.8 | Depth to Well Bottom (ft.): 22

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
15:50	16.05	300.00		5.45	3.87	99.00	3.80	0.10	22.33	Clear	No	
15:55	16.05	300.00		5.37	3.01	113.00	1.60	0.10	21.59	Clear	No	
16:00	16.05	300.00		5.36	2.86	119.00	0.70	0.10	21.41	Clear	No	
16:05	16.05	300.00		5.36	2.73	124.00	0.60	0.10	21.12	Clear	No	
16:10	16.05	300.00		5.35	2.74	127.00	0.60	0.10	21.05	Clear	No	

Sampling Data

Zero HS:

Method: Dedicated tubing | Date: 06-18-2019 | Time: 16:15 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	5.35
Spec. Cond.(mS/cm)	0.10
Turbidity (NTU)	0.60
Temp.(°C)	21.05
DO (mg/L)	2.74
ORP (mV)	127.00

Screen Interval: 17-22

SAMPLE SET				
Parameter	**Bottle**	**Pres.**	**Method**	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: MW-31_061819

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	95.00
Sky:	Partly Sunny
Precipitation:	None
Wind (mph)	10

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WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-32 | Well Diameter: 2 Inches

Samplers: Charles Pace | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: bottom of well

Method: Peristaltic Pump | Date: 07-18-2019 | Time: 11:22

WATER VOLUME CALCULATION			
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot			
Water Volume =	-2.386		
Initial Depth to Water (ft.):	14.91	Depth to Well Bottom (ft.):	

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	15.21			7.08	0.00	-10.00	155.00	0.19	22.59	Cloudy	No	
	15.22			6.89	0.00	18.00	26.00	0.19	22.36	Cloudy	No	
	15.22			6.89	0.00	10.00	14.60	0.19	22.30	Clear	No	
	15.22			6.86	0.00	3.00	6.50	0.19	22.27	Clear	No	
	15.22			6.82	0.00	-2.00	4.10	0.19	22.17	Clear	No	
	15.22			6.85	0.00	-10.00	2.00	0.19	22.09	Clear	No	
	15.22			6.85	0.00	-15.00	1.50	0.19	22.10	Clear	No	
	15.22			6.84	0.00	-15.00	0.90	0.19	22.21	Clear	No	

Sampling Data

Zero HS:

Method: Peristaltic Pump | Date: 07-18-2019 | Time: 12:20 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	6.84
Spec. Cond.(mS/cm)	0.19
Turbidity (NTU)	0.90
Temp.(°C)	22.21
DO (mg/L)	
ORP (mV)	

Screen Interval: 13-18.5

SAMPLE SET				
Parameter	**Bottle**	**Pres.**	**Method**	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-32

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	93.00
Sky:	Partly Cloudy
Precipitation:	None
Wind (mph)	11

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-32 | Well Diameter: 2 Inches

Samplers: CHARLES PACE Steven Boor | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth: 17

Pump Loc: within screen

Method: Low Flow: Geo Pump | Date: 08-09-2019 | Time: 13:49

WATER VOLUME CALCULATION			
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot			
Water Volume =	0.918		
Initial Depth to Water (ft.):	14.81	Depth to Well Bottom (ft.):	20.55

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	15.05			6.34	4.44	34.00	29.40	0.16	26.00			
	15.05			6.25	0.49	65.00	0.00	0.15	25.37			
	15.09			6.27	0.29	73.00	0.00	0.16	25.82			
	15.06			6.27	0.14	80.00	0.00	0.15	24.85			
	15.06			6.28	0.05	84.00	0.00	0.15	25.12			
	15.06			6.30	0.02	86.00	0.00	0.15	25.53	Clear	No	

Sampling Data

Zero HS:

Method: Dedicated tubing | Date: 08-09-2019 | Time: 14:30 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	6.30
Spec. Cond.(mS/cm)	0.15
Turbidity (NTU)	
Temp.(°C)	25.53
DO (mg/L)	0.02
ORP (mV)	86.00

Screen Interval: 13-18.5

SAMPLE SET				
Parameter	**Bottle**	**Pres.**	**Method**	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-32

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	97.00
Sky:	Sunny
Precipitation:	None
Wind (mph)	

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WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-32 | Well Diameter: 2 Inches

Samplers: Curtis Brown and Charles Tart | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc:

Method: | Date: 06-18-2019 | Time: 15:58

WATER VOLUME CALCULATION			
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot			
Water Volume =	0.586		
Initial Depth to Water (ft.):	14.84	Depth to Well Bottom (ft.):	18.5

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
15:22	14.93	100.00		5.41	0.15	190.00	46.40	0.17	29.29	Clear	No	
15:30	14.93	100.00		5.41	0.16	183.00	62.70	0.16	28.80	Clear	No	Water level stable at 14.93
15:42	14.93	100.00		5.43	0.12	180.00	3.20	0.16	28.41	Clear	No	
15:49	14.93	100.00		5.43	0.11	180.00	0.70	0.16	28.05	Clear	No	
15:53	14.93	100.00		5.43	0.12	181.00	0.00	0.16	27.76	Clear	Mo	
15:58	14.93	100.00		5.44	0.13	182.00	0.00	0.16	27.31	Clear	No	

Sampling Data

Zero HS:

Method: Peristaltic Pump | Date: 06-18-2019 | Time: 16:00 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	5.44
Spec. Cond.(mS/cm)	0.16
Turbidity (NTU)	
Temp.(°C)	27.31
DO (mg/L)	0.13
ORP (mV)	182.00

Screen Interval: 13-18.5

SAMPLE SET				
Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: MW-32_061819

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	91.00
Sky:	Partly Cloudy
Precipitation:	None
Wind (mph)	9

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-33 | Well Diameter: 2 Inches

Samplers: Charles Pace Luke Tart | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: bottom of well

Method: Peristaltic Pump | Date: 07-18-2019 | Time: 09:32

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = -2.312

Initial Depth to Water (ft.): 14.45 | Depth to Well Bottom (ft.):

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	14.51			6.82	0.00	65.00	8.60	0.17	22.35	Clear	No	
	14.51			6.74	0.00	110.00	16.20	0.17	22.51	Clear	No	
	14.51			6.69	0.00	131.00	2.40	0.17	22.11	Clear	No	
	14.51			6.69	0.00	110.00	5.90	0.17	22.08	Clear	No	
	14.51			6.67	0.00	121.00	6.40	0.17	22.22	Clear	No	
	14.51			6.61	0.00	137.00	1.70	0.17	22.49	Clear	No	
	14.51			6.55	0.00	147.00	1.20	0.17	22.66	Clear	No	
	14.51			6.54	0.00	150.00	0.70	0.17	22.64	Clear	No	

Sampling Data

Zero HS:

Method: Peristaltic Pump | Date: 07-18-2019 | Time: 10:30 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	6.54
Spec. Cond.(mS/cm)	0.17
Turbidity (NTU)	0.70
Temp.(°C)	22.64
DO (mg/L)	
ORP (mV)	150.00

Screen Interval: 12-17

SAMPLE SET				
Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-33

DuplicateID: GW0619-MW-33-D

WEATHER CONDITIONS	
Temperature (F):	89.00
Sky:	Sunny
Precipitation:	None
Wind (mph)	11

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-33 | Well Diameter: 2 Inches

Samplers: CHARLES PACE Thomas Strayhorn | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: bottom of well

Method: Low Flow: Geo Pump | Date: 08-12-2019 | Time: 11:29

WATER VOLUME CALCULATION			
= (Total Depth of Well - Depth To Water) x Casing Volume per Foot			
Water Volume =	-2.288		
Initial Depth to Water (ft.):	14.3	Depth to Well Bottom (ft.):	

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	14.34			6.24	1.67	126.00	7.90	0.14	26.73	Clear	No	
	14.33			6.29	0.38	135.00	0.00	0.14	27.06	Clear	No	
	14.33			6.28	0.25	144.00	0.00	0.14	26.93	Clear	No	
	14.33			6.28	0.13	149.00	0.00	0.14	26.22	Clear	No	
	14.33			6.28	0.10	153.00	0.00	0.14	25.61	Clear	No	
	14.33			6.28	0.07	155.00	0.00	0.14	25.71	Clear	No	

Sampling Data

Zero HS:

Method: Peristaltic Pump | Date: 08-12-2019 | Time: 12:10 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	6.28
Spec. Cond.(mS/cm)	0.14
Turbidity (NTU)	
Temp.(°C)	25.71
DO (mg/L)	0.07
ORP (mV)	155.00

Screen Interval: 12-17

SAMPLE SET				
Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-33

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	89.00
Sky:	Sunny
Precipitation:	
Wind (mph)	4

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-33 | Well Diameter: 2 Inches

Samplers: Ken Stuart Sarah Barrett | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth: 19

Pump Loc: within screen

Method: Low Flow: Geo Pump | Date: 06-18-2019 | Time: 15:27

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = 0.885

Initial Depth to Water (ft.): 14.29 | Depth to Well Bottom (ft.): 19.82

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
14:59	14.34	275.00		5.32	2.10	294.00	50.60	0.16	24.00	Hazy		
15:06	14.34	275.00		5.38	1.29	302.00	18.50	0.16	23.77	Clear		
15:08	14.34	275.00		5.37	1.31	304.00	26.10	0.16	23.82	Clear		
15:17	14.34	275.00		5.34	1.13	306.00	15.10	0.16	23.43	Clear		
15:21	14.34			5.34	1.05	307.00	7.90	0.16	23.47	Clear		
15:27	14.34			5.34	1.03	307.00	6.80	0.16	23.28			

Sampling Data

Zero HS:

Method: Dedicated tubing | Date: 06-18-2019 | Time: 15:27 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	5.34
Spec. Cond.(mS/cm)	0.16
Turbidity (NTU)	6.80
Temp.(°C)	23.28
DO (mg/L)	1.03
ORP (mV)	307.00

Screen Interval: 12-17

SAMPLE SET				
Parameter	**Bottle**	**Pres.**	**Method**	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: MW-33_061819

DuplicateID: MW-33_061819-D

WEATHER CONDITIONS	
Temperature (F):	91.00
Sky:	Partly Sunny
Precipitation:	None
Wind (mph)	8

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-34 | Well Diameter: 2 Inches

Samplers: Charles Pace | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc:

Method: Peristaltic Pump | Date: 07-18-2019 | Time: 08:16

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = -2.557

Initial Depth to Water (ft.): 15.98 | Depth to Well Bottom (ft.):

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	16.50			6.60	0.35	42.00	1000.00	0.16	21.38	Black	No	
	16.40			6.67	0.00	37.00	378.00	0.16	21.70	Dark cloudy color	No	
	16.40			6.73	0.00	27.00	316.00	0.17	21.54	Cloudy	No	
	16.40			6.77	0.00	20.00	300.00	0.17	21.77	Cloudy	No	
	16.40			6.78	0.00	16.00	301.00	0.18	21.79	Cloudy	No	
	16.40			6.79	0.00	15.00	305.00	0.18	21.81	Cloudy	No	
	16.40			6.81	0.00	13.00	330.00	0.18	21.67	Cloudy	No	
	16.40			6.82	0.00	12.00	345.00	0.13	21.80	Cloudy	No	
	16.40			6.81	0.00	13.00	367.00	0.18	21.83	Cloudy	No	
	16.40			6.76	0.00	14.00	374.00	0.18	21.76	Cloudy	No	
	16.40			6.82	0.00	12.00	378.00	0.18	21.85	Cloudy	No	Due to lack of stabilization, the 4 samples were taken in 1-liter amber

Sampling Data

Zero HS:

Method: Dedicated tubing | Date: 07-18-2019 | Time: 09:25 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	6.82
Spec. Cond.(mS/cm)	0.18
Turbidity (NTU)	378.00
Temp.(°C)	21.85
DO (mg/L)	
ORP (mV)	12.00

Screen Interval: 17-22

SAMPLE SET				
Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-34

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	81.00
Sky:	Sunny
Precipitation:	None
Wind (mph)	10

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WELL SAMPLING RECORD

Site Name:	Chemours Fayetteville	Well ID:	MW-34	Well Diameter:	2 Inches
Samplers:	CHARLES PACE Steven Boor	Event:	Other	Project Manager:	Tracy Ovbey

Purging Data

Pump Depth: 20
Pump Loc: within screen
Method: Low Flow: Geo Pump Date: 08-09-2019 Time: 12:07

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = -2.578

Initial Depth to Water (ft.): 16.11 Depth to Well Bottom (ft.):

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	16.18			6.09	0.00	49.00	261.00	0.12	32.58	Dark grey		
	16.19			6.04	0.00	60.00	29.70	0.12	28.53			
	16.19			6.02	0.00	67.00	0.00	0.13	27.77			
	16.19			6.06	0.00	66.00	2.90	0.13	27.68			
	16.19			6.07	0.00	66.00	12.50	0.13	27.44			

Sampling Data

Zero HS:
Method: Dedicated tubing Date: 08-09-2019 Time: 12:50 Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	6.07
Spec. Cond.(mS/cm)	0.13
Turbidity (NTU)	12.50
Temp.(°C)	27.44
DO (mg/L)	
ORP (mV)	66.00

Screen Interval: 17-22

SAMPLE SET				
Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-34
DuplicateID: GW0619-MW-34-D

WEATHER CONDITIONS	
Temperature (F):	97.00
Sky:	Sunny
Precipitation:	None
Wind (mph)	

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WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-34 | Well Diameter: 2 Inches

Samplers: Curtis Brown and Charles Tart | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: bottom of well

Method: Peristaltic Pump | Date: 06-19-2019 | Time: 11:20

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = 1.034

Initial Depth to Water (ft.): 15.86 | Depth to Well Bottom (ft.): 22.32

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
09:40	16.06	100.00		5.71	4.21	-50.00	162.00	0.18	25.23	Black	No	
09:45	15.95	100.00		5.67	2.80	-37.00	165.00	0.17	25.53	Grey	No	
09:55	15.95	100.00		5.29	2.46	-17.00	162.00	0.17	25.24	Grey	No	
10:00	15.95	100.00		5.34	2.25	-28.00	157.00	0.18	25.39	Clear	No	
10:10	15.95	100.00		5.48	1.95	-44.00	153.00	0.18	26.03	Clear	No	
10:20	15.95	100.00		5.52	1.38	-52.00	154.00	0.18	26.35	Clear	No	
10:25	15.95	100.00		5.54	1.24	-55.00	155.00	0.18	26.49	Clear	No	
10:30	15.95	100.00		5.56	1.01	-58.00	151.00	0.18	26.61	Clear	No	
10:35	15.95	100.00		5.56	0.88	-58.00	149.00	0.18	26.73	Clear	No	
10:40	15.95	100.00		5.56	0.81	-58.00	150.00	0.18	26.78	Clear	No	
10:45	15.95	100.00		5.58	0.76	-60.00	153.00	0.18	27.05	Clear	No	
10:50	15.95	100.00		5.58	0.72	-61.00	152.00	0.18	27.03	Clear	No	
10:55	15.95	100.00		5.57	0.63	-60.00	150.00	0.18	27.39	Clear	No	
11:00	15.95	100.00		5.58	0.57	-62.00	148.00	0.18	27.54	Clear	No	
11:05	15.95	100.00		5.59	0.54	-62.00	147.00	0.18	27.70	Clear	No	
11:10	15.95	100.00		5.51	0.53	-57.00	146.00	0.19	28.00	Clear	No	
11:15	15.95	100.00		5.33	0.59	-47.00	186.00	0.19	28.32	Clear	No	
11:20	15.95	100.00		5.36	0.57	-52.00	167.00	0.18	28.46	Clear	No	

Sampling Data

Zero HS:

Method: Peristaltic Pump | Date: 06-19-2019 | Time: 11:25 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	5.36
Spec. Cond.(mS/cm)	0.18
Turbidity (NTU)	167.00
Temp.(°C)	28.46
DO (mg/L)	0.57
ORP (mV)	

Screen Interval: 17-22

SAMPLE SET				
Parameter	**Bottle**	**Pres.**	**Method**	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: MW-34_061919

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	
Sky:	Cloudy
Precipitation:	None
Wind (mph)	

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-35 | Well Diameter: 2 Inches

Samplers: Charles Pace Luke Tart | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: bottom of well

Method: Peristaltic Pump | Date: 07-17-2019 | Time: 16:07

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = -2.474

Initial Depth to Water (ft.): 15.46 | Depth to Well Bottom (ft.):

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	15.56			6.37	2.51	-44.00	1000.00	0.36	24.82	Black	No	
	15.57			5.86	0.13	-21.00	840.00	0.22	24.21	Black	No	
	15.57			5.80	0.00	-30.00	609.00	0.20	24.17	Cloudy	No	
	15.57			5.99	0.00	-42.00	377.00	0.18	25.39	Cloudy	No	
	15.57			5.88	0.00	-40.00	385.00	0.18	24.11	Black	No	
	15.57			5.72	0.00	-38.00	391.00	0.18	24.03	Black	No	
	15.57			5.70	0.00	-40.00	410.00	0.18	23.88	Black	No	Due to lack of stabilization, 4 samples were taken in 1-liter amber

Sampling Data

Zero HS:

Method: Dedicated tubing | Date: 07-17-2019 | Time: 17:10 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	5.70
Spec. Cond.(mS/cm)	0.18
Turbidity (NTU)	410.00
Temp.(°C)	23.88
DO (mg/L)	
ORP (mV)	

Screen Interval: 14-19

SAMPLE SET				
Parameter	**Bottle**	**Pres.**	**Method**	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-35

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	102.00
Sky:	Partly Cloudy
Precipitation:	None
Wind (mph)	12

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-35 | Well Diameter: 2 Inches

Samplers: CHARLES PACE Steven Boor | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth: 18

Pump Loc: within screen

Method: Low Flow: Geo Pump | Date: 08-09-2019 | Time: 10:36

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = 1.048

Initial Depth to Water (ft.): 15.35 | Depth to Well Bottom (ft.): 21.9

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	15.45			6.76	0.00	-78.00	719.00	0.38	25.18	Black		
	15.44			6.47	0.00	-50.00	1000.00	0.22	25.18			
	15.44			6.34	0.00	-44.00	830.00	0.19	25.15			
	15.44			6.38	0.00	-47.00	890.00	0.20	25.82			
	15.44			6.37	0.00	-46.00	903.00	0.20	27.55			Pedi pump malfunctioned; pumping was stopped, adjusted, and
	15.44			6.68	0.00	-70.00	1000.00	0.36	29.10			
	15.44			6.51	0.00	-70.00	940.00	0.25	29.40			
	15.44			6.49	0.00	-74.00	671.00	0.25	30.69			
	15.44			6.33	0.00	-55.00	278.00	0.16	27.07			
	15.44			6.32	0.00	-49.00	173.00	0.17	26.41			
	15.44			6.33	0.00	-48.00	171.00	0.17	26.15			
	15.44			6.32	0.00	-48.00	180.00	0.17	26.36			

Sampling Data

Zero HS:

Method: Dedicated tubing | Date: 08-09-2019 | Time: 12:00 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	6.32
Spec. Cond.(mS/cm)	0.17
Turbidity (NTU)	180.00
Temp.(°C)	26.36
DO (mg/L)	
ORP (mV)	

Screen Interval: 14-19

SAMPLE SET

Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-35

DuplicateID:

WEATHER CONDITIONS

Temperature (F):	96.00
Sky:	Sunny
Precipitation:	None
Wind (mph)	

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-35 | Well Diameter: 2 Inches

Samplers: Charles Pace Jacob Limpus | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: within screen

Method: Low Flow: Geo Pump | Date: 06-18-2019 | Time: 14:59

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = 0.597

Initial Depth to Water (ft.): 15.27 | Depth to Well Bottom (ft.): 19

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
14:00	15.35	300.00		6.24	5.37	-3.00	646.00	0.25	22.92	Black	No	
14:05	15.39	300.00		5.82	0.12	-26.00	784.00	0.20	22.45	Black	No	
14:10	15.39	300.00		5.85	0.00	-39.00	1000.00	0.20	22.43	Black	No	
14:15	15.39	300.00		5.88	0.00	-48.00	827.00	0.21	22.25	Black	No	
14:20	15.39	300.00		5.87	0.00	-52.00	1000.00	0.22	21.66	Black	No	
14:25	15.39	300.00		5.86	0.00	-55.00	1000.00	0.22	21.54	Black	No	
14:30	15.39	300.00		5.86	0.00	-56.00	1000.00	0.22	21.51	Black	No	
14:35	15.39	300.00		6.69	0.00	-124.00	1000.00	0.88	21.35	Black	No	
14:40	15.39	300.00		5.88	0.00	-58.00	1000.00	0.22	21.28	Black	No	
14:45	15.39	300.00		5.86	0.00	-59.00	1000.00	0.22	21.32	Black	No	
14:50	15.39	300.00		5.85	0.00	-60.00	1000.00	0.21	21.33	Black	No	
14:55	15.39	300.00		5.83	0.00	-60.00	1000.00	0.21	21.29	Black	No	
14:59	15.39	300.00		5.82	0.00	-60.00	1000.00	0.21	21.94	Black	No	

Sampling Data

Zero HS:

Method: Dedicated tubing | Date: 06-18-2019 | Time: 15:10 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	5.82
Spec. Cond.(mS/cm)	0.21
Turbidity (NTU)	1000.00
Temp.(°C)	21.94
DO (mg/L)	
ORP (mV)	

Screen Interval: 14-19

SAMPLE SET				
Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: MW-35_061819

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	90.00
Sky:	Partly Sunny
Precipitation:	None
Wind (mph)	10

Parsons PLUS creating a safer world

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-36 | Well Diameter: 2 Inches

Samplers: Charles Pace | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: bottom of well

Method: Low Flow: Geo Pump | Date: 07-17-2019 | Time: 13:30

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = -2.514

Initial Depth to Water (ft.): 15.71 | Depth to Well Bottom (ft.):

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	15.85			6.87	6.74	-196.00	1000.00	0.56	25.06	Black	No	
	15.85			6.40	0.00	-176.00	1000.00	0.31	25.55	Black	No	
	15.87			6.39	0.00	-177.00	1000.00	0.30	25.22	Black	No	
	15.87			6.44	0.00	-182.00	1000.00	0.30	25.38	Black	No	
	15.87			6.45	0.00	-135.00	1000.00	0.30	25.20	Black	No	
	15.87			6.49	0.00	-188.00	1000.00	0.29	24.76	Black	No	
	15.87			6.49	1.44	-190.00	1000.00	0.29	25.26	Black	No	
	15.87			6.51	0.00	-193.00	1000.00	0.29	25.02	Blwck	No	
	15.87			6.50	0.00	-194.00	1000.00	0.28	25.02	Black	No	
	15.87			6.50	0.00	-194.00	1000.00	0.28	25.09	Black	No	
	15.87			6.53	0.00	-197.00	1000.00	0.28	25.00	Black	No	
	15.87			6.68	0.00	-120.00	1000.00	0.32	26.73	Black	No	
	15.87			6.40	0.00	-158.00	1000.00	0.27	25.58	Black	No	
	16.87			6.44	0.00	-169.00	1000.00	0.27	24.34	Black	No	
	15.87			6.43	0.00	-175.00	1000.00	0.27	25.24	Black	No	
	15.87			6.47	0.00	-182.00	1000.00	0.27	25.55	Black	No	
	15.87			6.48	0.00	-184.00	1000.00	0.27	25.63	Black	No	Due to lack stabilization, samples were taken in 4 1-liter amber bottles

Sampling Data

Zero HS:

Method: Peristaltic Pump | Date: 07-17-2019 | Time: 15:40 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	6.48
Spec. Cond.(mS/cm)	0.27
Turbidity (NTU)	1000.00
Temp.(°C)	25.63
DO (mg/L)	
ORP (mV)	

Screen Interval: 12-17

SAMPLE SET

Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-36

DuplicateID:

WEATHER CONDITIONS

Temperature (F):	101.00
Sky:	Sunny
Precipitation:	None
Wind (mph)	

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-36 | Well Diameter: 2 Inches

Samplers: CHARLES PACE Steven Boor | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: bottom of well

Method: Low Flow: Geo Pump | Date: 08-09-2019 | Time: 09:14

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = 0.606

Initial Depth to Water (ft.): 15.61 | Depth to Well Bottom (ft.): 19.4

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
	15.71			7.11	0.00	-152.00	1000.00	0.72	23.33	Black		
	15.71			6.74	0.00	-113.00	655.00	0.31	23.45			
	15.71			6.66	0.00	-107.00	261.00	0.27	23.70			
	15.71			6.69	0.00	-111.00	276.00	0.27	23.76			
	15.71			6.71	0.00	-115.00	269.00	0.26	24.10			
	15.71			6.72	0.00	-118.00	280.00	0.26	24.31			
	15.71			6.75	0.00	-122.00	289.00	0.26	24.43			
	15.71			6.76	0.00	-124.00	293.00	0.25	24.57			

Sampling Data

Zero HS:

Method: Dedicated tubing | Date: 08-09-2019 | Time: 10:35 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	6.76
Spec. Cond.(mS/cm)	0.25
Turbidity (NTU)	293.00
Temp.(°C)	24.57
DO (mg/L)	
ORP (mV)	

Screen Interval: 12-17

SAMPLE SET

Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: GW0619-MW-36

DuplicateID:

WEATHER CONDITIONS

Temperature (F):	83.00
Sky:	Partly Sunny
Precipitation:	None
Wind (mph)	

WELL SAMPLING RECORD

Site Name: Chemours Fayetteville | Well ID: MW-36 | Well Diameter: 2 Inches

Samplers: Charles Pace Jacob limpus | Event: Other | Project Manager: Tracy Ovbey

Purging Data

Pump Depth:

Pump Loc: within screen

Method: Low Flow: Geo Pump | Date: 06-18-2019 | Time: 11:50

WATER VOLUME CALCULATION

= (Total Depth of Well - Depth To Water) x Casing Volume per Foot

Water Volume = -2.482

Initial Depth to Water (ft.): 15.51 | Depth to Well Bottom (ft.):

Time	DTW	Pump Rate	Vol.	pH	DO	Redox	Turbidity	Spec. Cond.	Temp.	Color	Odor	Comments
24 hr.	ft.	ml/min.	gal.		mg/L	mV	NTU	mS/cm	°C			
11:05	15.75	300.00		6.57	0.00	-68.00	1000.00	0.55	22.14	Black	No	
11:10	15.70	300.00		6.47	0.00	-86.00	1000.00	0.48	22.11	Black	No	
11:15	15.70	300.00		6.46	0.00	-90.00	1000.00	0.48	21.99	Black	No	
11:20	15.70	300.00		6.42	0.00	-90.00	1000.00	0.43	21.79	Black	No	
11:25	15.70	300.00		6.44	0.00	-95.00	1000.00	0.45	21.44	Black	No	
11:30	15.70	300.00		6.46	0.00	-101.00	1000.00	0.42	21.37	Black	No	
11:35	15.70	300.00		6.48	0.00	-103.00	1000.00	0.41	21.66	Black	No	
11:40	15.70	300.00		6.47	0.00	-104.00	1000.00	0.40	21.59	Black	No	
11:45	15.70	300.00		6.46	0.00	-105.00	1000.00	0.40	21.90	Black	No	
11:50	15.70	300.00		6.46	0.00	-107.00	1000.00	0.40	22.02	Black	No	

Sampling Data

Zero HS:

Method: Dedicated tubing | Date: 06-18-2019 | Time: 12:00 | Total Volume Purged (gallons):

Field Parameters

STABILIZED PARAMETERS	
pH	6.46
Spec. Cond.(mS/cm)	0.40
Turbidity (NTU)	1000.00
Temp.(°C)	22.02
DO (mg/L)	
ORP (mV)	

Screen Interval: 12-17

SAMPLE SET				
Parameter	Bottle	Pres.	Method	
PFAS	2-250 mL poly	NP	EPA 537 Modified	✔
PFAS	250 mL poly	NP	Table 3	
PFAS	250 mL poly	NP	Table 3+	✔

Sample ID: MW-36_061819

DuplicateID:

WEATHER CONDITIONS	
Temperature (F):	86.00
Sky:	Partly Sunny
Precipitation:	None
Wind (mph)	10